



Pushing Performance



People | Power | Partnership

HARTING Industrial Connectors Han®

Contents	Chapter
Industrial Connectors Technical characteristics	00
Han A® Slim Construction Size (up to 16 amperes)	01
Han D® / DD® up to 216 contacts	02
Han E® / Han® ES/ESS/EE/EEE for 16 amperes	03
Han Hv E® / Han® Hv ES for higher voltages	04
Han-Com® Combination Connectors	05
Han-Modular® modular connectors	06
Han® HsB for higher currents	07
Han® AV Terminal Block Connectors	08
Staf® for low voltages	09
Han-Snap® for the use in switch cabinets	11
Han-Port® Interface for power and signals	12
Han® Q compact connectors	13
Han® HC-Modular/Individual High Current Connectors	14
Han-Power® Energy Bus Components	15
Han® HMC for High Mating Cycles	16
Han® High Temp for high temperatures	17
Han-Brid® Industrial Bus Interface	19
Han® PCB termination	20
Han- <i>Yellowlock</i> ®	25
Han-Eco®	29
Han® Hoods and Housings with metric thread	31
Han® Thermocouple	41
Han® GND	42
Accessories	80
Tools	90

Economic and Reliable Connections

Specifications

DIN EN 60664-1 (VDE 0110-1)
Principles, requirements and tests

DIN EN 61984 (VDE 0627)
Connectors, Safety requirements and tests

Note:

The connectors included in this catalogue should not be coupled or decoupled under electrical load unless otherwise stated.

The connector must not be powered-up in the un-mated condition. This is also true if the connector is closed with a protection cover, unless otherwise stated.

The provision of protection against electric shock is the responsibility of the user. Protection can be achieved by the use of HARTING hoods and housings coupled with/or alternatively appropriate installation methods provided by the user.

The female connector in a HARTING hood or housing offers finger safe protection according to relevant standards for the mating face, even in the unmated condition, unless otherwise stated.

Connectors of the same or different series being mounted side by side may be protected against incorrect mating by the use of coding options.

Standard

DIN EN 175301-801

Approvals

UL File No. E 235076 (www.ul.com)

CSA File No. LR 18753, SEV for inserts

GL certificate No. 13 674 - 99 HH



Certified according to EN ISO 9001 in design/development, production, installation and servicing

Terminations

- Screw terminal
- Crimp terminal
- Cage-clamp terminal
- Wrap terminal
- Solder terminal
- Axial-screw terminal
- Rapid terminal
- IDC termination

Inserts

- Leading protective ground
- Polarised for correct mating
- Interchangeability of male and female inserts in hoods and housings
- Captive fixing screws
- Can be used with hoods and housings, or for rack and panel applications

Hoods/Housings

- Standard Hoods/Housings
- Hoods/Housings for harsh environmental requirements
- Hoods/Housings for intrinsically safe plant
- Degree of protection IP 65
- Electrical connection with protective ground
- High mechanical strength and vibration-resistance ensured by locking levers
 - Spring-loaded covers in shockproof thermoplastic or metal covers, both lockable

Accessories

- Extensive range of cable protection and sealing accessories
- Protective covers available
- Coding options for incorrect mating protection

For "non standard applications" we can manufacture designs to match your requirements. Please discuss requirements with us.

HARTING components help you to construct top quality products – economically and in line with market requirements.

General information

It is the customer's responsibility to check whether the components illustrated in this catalogue also comply with different regulations from those stated in special fields of applications.

We reserve the right to modify designs or substance of content in order to improve quality, keep pace with technological advancement or meet particular requirements in production.

No part of this catalogue may be reproduced in any form (print, photocopy, microfilm or any other process) or processed, duplicated or distributed by means of electronic systems without the prior written consent of HARTING Electric GmbH & Co. KG, Espelkamp. We are bound by the German version only.

Transforming customer wishes into concrete solutions



The HARTING Technology Group is skilled in the fields of electrical, electronic and optical connection, transmission and networking, as well as in manufacturing, mechatronics and software creation. The Group uses these skills to develop customized solutions and products such as connectors for energy and data transmission applications including, for example, mechanical engineering, rail technology, wind energy plants, factory automation and the telecommunications sector. In addition, HARTING also produces electro-magnetic components for the automobile industry and offers solutions in the field of Enclosures and Shop Systems. The HARTING Group currently comprises 51 sales companies and production plants worldwide employing a total of about 4,200 staff.



HARTING Subsidiary company



HARTING Representatives



We aspire to top performance.

Connectors ensure functionality. As core elements of electrical and optical wiring, connection and infrastructure technologies, they are essential in enabling the modular construction of devices, machines and systems across a very wide range of industrial applications. Their reliability is a crucial factor guaranteeing smooth functioning in the manufacturing area, in telecommunications, applications in medical technology – in fact, connectors are at work in virtually every conceivable application area. Thanks to the consistent further development of our technologies, customers enjoy investment security and benefit from durable, long term functionality.

Always at hand, wherever our customers may be.

Increasing industrialization is creating growing markets characterized by widely diverging demands and requirements. The search for perfection, increasingly efficient processes and reliable technologies is a common factor in all sectors across the globe.

HARTING is providing these technologies – in Europe, America and Asia. The **HARTING** professionals at our international subsidiaries engage in close, partnership based interaction with our customers, right from the very early product development phases, in order to realize customer demands and requirements in the best possible manner.

Our people on location form the interface to the centrally coordinated development and production departments. In this way, our customers can rely on consistently high, superior product quality – worldwide.

Our claim: pushing performance.

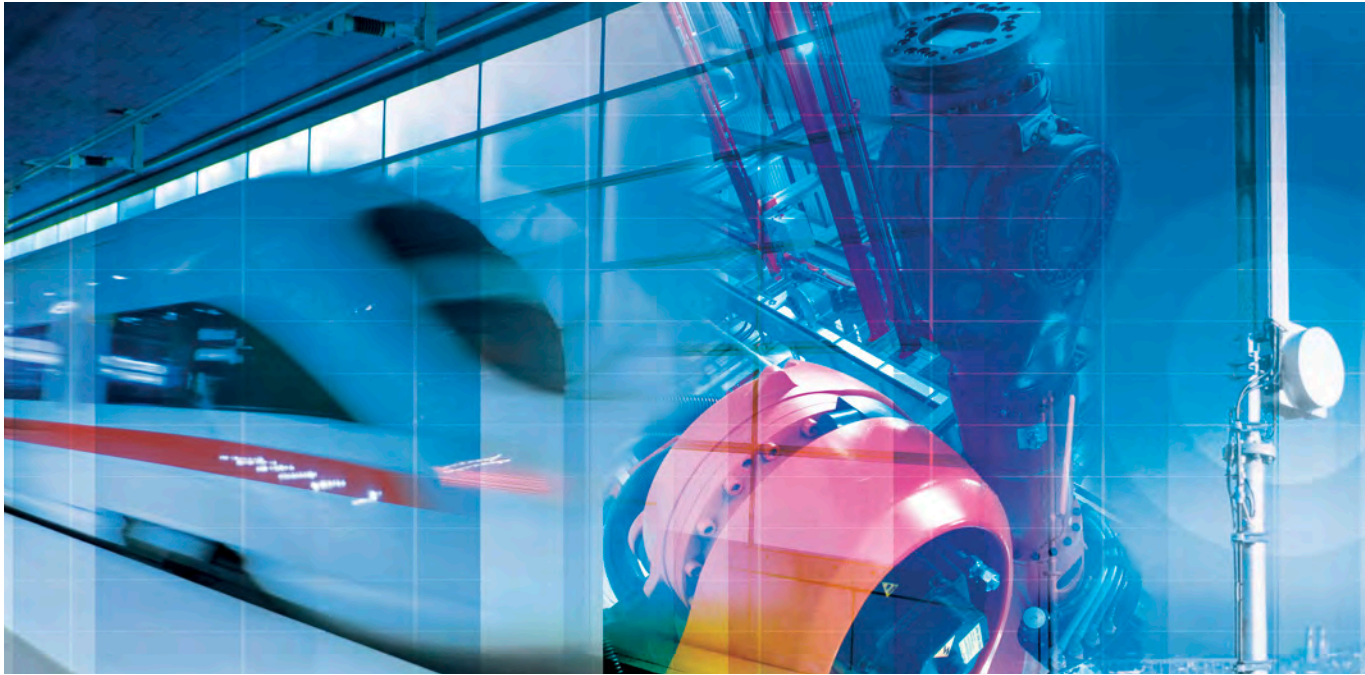
HARTING provides more than optimally attuned components. In order to serve our customers with the best possible solutions, **HARTING** is able to contribute a great deal more and play a closely integrative role in the value creation process.

From ready assembled cables through to control racks or ready-to-go control desks: Our aim is to generate the maximum benefits for our customers – without compromise!

Quality creates reliability – and warrants trust.

The **HARTING** brand stands for superior quality and reliability – worldwide. The standards we set are the result of consistent, stringent quality management that is subject to regular certifications and audits.

EN ISO 9001, the EU Eco-Audit and ISO 14001 are key elements here. We take a proactive stance towards new requirements, which is why **HARTING** is the first company worldwide to have obtained the IRIS quality certificate for rail vehicles.



HARTING technology creates added value for customers. Technologies by HARTING are at work worldwide. HARTING's presence stands for smoothly functioning systems, powered by intelligent connectors, smart infrastructure solutions and mature network systems. In the course of many years of close, trust-based cooperation with its customers, the HARTING Technology Group has advanced to one of the worldwide leading specialists for connector technology. Extending beyond the basic functionalities demanded, we offer individual customers specific and innovative solutions. These tailored solutions deliver sustained effects, provide investment security and enable customers to achieve strong added value.

Opting for HARTING opens up an innovative, complex world of concepts and ideas.

In order to develop connectivity and network solutions serving an exceptionally wide range of connector applications and task scopes in a professional and cost optimized manner, HARTING not only commands the full array of conventional tools and basic technologies. Over and beyond these capabilities, HARTING is constantly harnessing and refining its broad base of knowledge and experience to create new solutions that ensure continuity at the same time. In securing this know-how lead, HARTING draws on a wealth of sources from both in-house research and the world of applications alike.

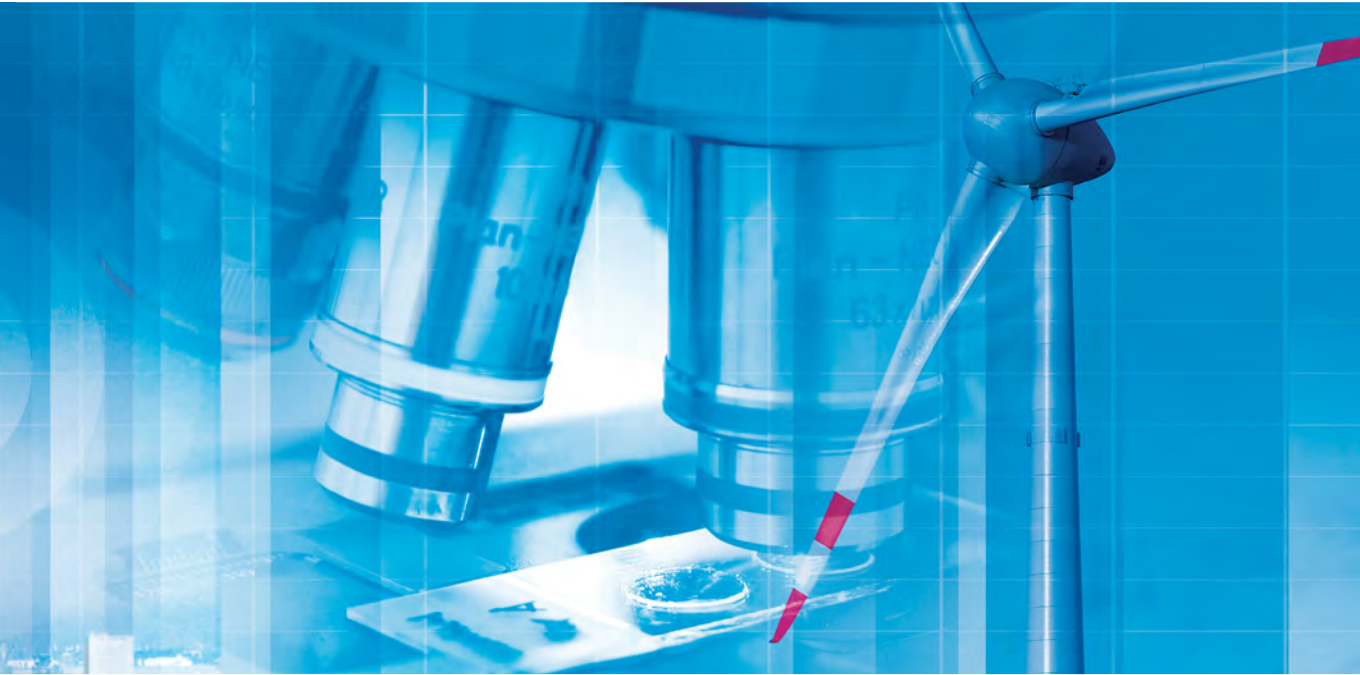
Salient examples of these sources of innovative knowledge include microstructure technologies, 3D design and construction technology, as well as high temperature

or ultrahigh frequency applications that are finding use in telecommunications or automation networks, in the automotive industry, or in industrial sensor and actuator applications, RFID and wireless technologies, in addition to packaging and housing made of plastics, aluminum or stainless steel.

HARTING solutions extend across technology boundaries.

Drawing on the comprehensive resources of the group's technology pool, HARTING devises practical solutions for its customers. Whether this involves industrial networks for manufacturing automation, or hybrid interface solutions for wireless telecommunication infrastructures, 3D circuit carriers with microstructures, or cable assemblies for high-temperature applications in the automotive industry – HARTING technologies offer far more than components, and represent mature, comprehensive solutions attuned to individual customer requirements and wishes. The range covers ready-to-use cable configurations, completely assembled backplanes and board system carriers, as well as fully wired and tested control panels.

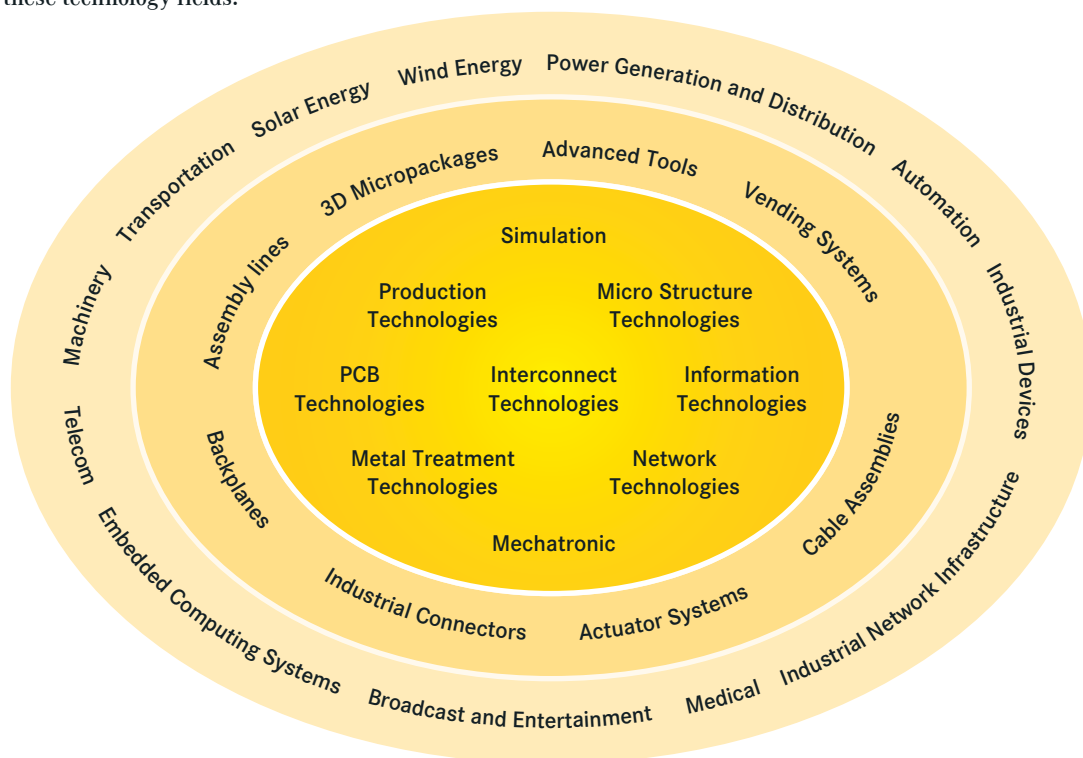
In order to ensure the future proof design of RF- and EMC-compatible interface solutions, the central HARTING laboratory (certified to EN 45001) provides simulation tools, as well as experimental, testing and diagnostics facilities all the way through to scanning electron microscopes. In the selection of materials and processes, lifecycle and environmental aspects play a key role, in addition to product and process capability considerations.



HARTING knowledge is practical know-how generating synergy effects.

HARTING commands decades of experience with regard to the applications conditions of connectors in telecommunications, computer and network technologies and medical technologies, as well as industrial automation technologies, such as the mechanical engineering and plant engineering areas, in addition to the power generation industry or the transportation sector. HARTING is highly conversant with the specific application areas in all of these technology fields.

The key focus is on applications in every solution approach. In this context, uncompromising, superior quality is our hallmark. Every new solution found will invariably flow back into the HARTING technology pool, thereby enriching our resources. And every new solution we go on to create will draw on this wealth of resources in order to optimize each and every individual solution. In this way, HARTING is synergy in action.





The **HARTING eCatalogue / eShop** can be found on our homepage at www.HARTING.com or at the direct link www.eCatalogue.HARTING.com.

The HARTING e-Catalogue is your platform for conveniently selecting individual products as well as configuring complete solutions. Our comprehensive product pages provide you with all necessary technical information and CAD files in various formats for downloading. You may also contact our technical sales department directly.

Find out about **product innovations and news** on the start page of the HARTING e-Catalogue or go directly to www.product-news.HARTING.com.

Registered users can take advantage of MyHARTING to check on availability or prices, and to place or track their orders. Here, your customized „HARTING history“ provides you with a list of your inquiries, quotations and more.

Sign up now for your free e-Catalogue account at HARTING!

www.eShop.HARTING.com

Contents	Page
Summary Han [®] -sizes	00.2
How to order connectors	00.4
Hoods/housings connector insert protection	00.5
Type of hoods/housings	00.6
Locking systems	00.8
Connection technology	00.9
Electrical engineering data	00.18
Current carrying capacity	00.21
Cross Reference from Pg thread to metric cable thread	00.23
Declaration of Conformity	00.24

Han

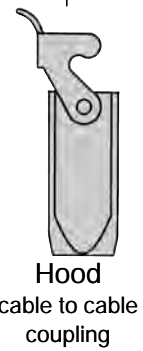
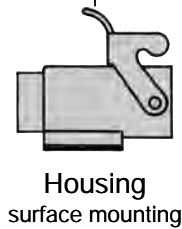
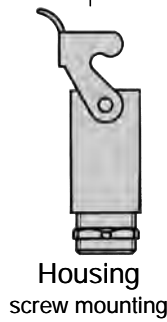
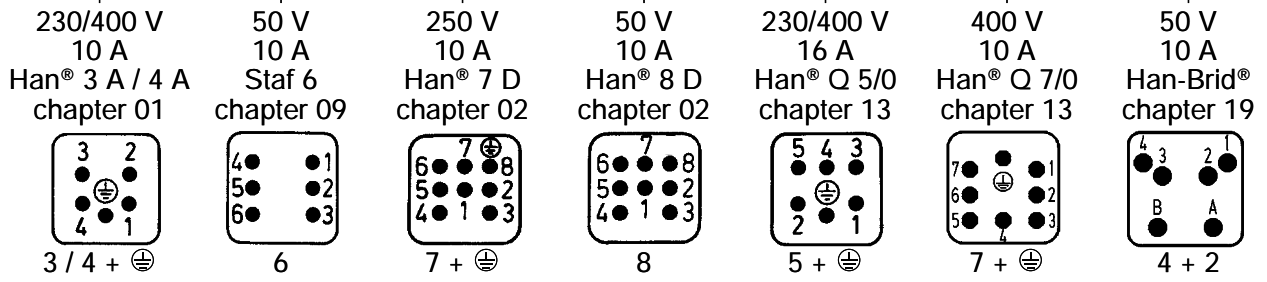
Size Description

A

3

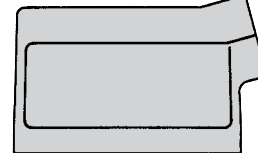
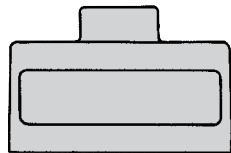
Hood side-entry

Hood top-entry

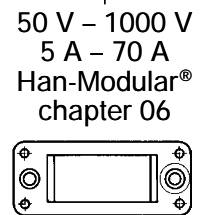
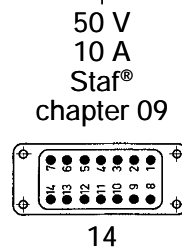
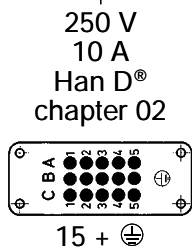
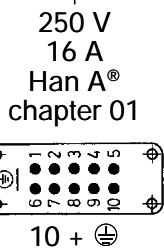


Hood top-entry

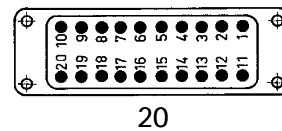
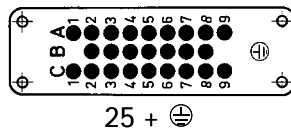
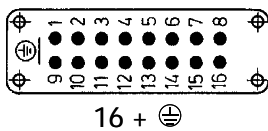
Hood side-entry



10



16



Housing bulkhead mounting

Housing surface mounting

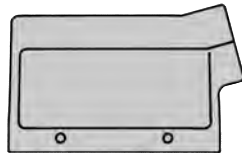
Hood cable to cable coupling



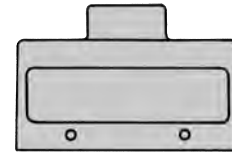
suitable for 2 inserts of size 16 A

Size Description

B



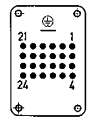
Hood side-entry



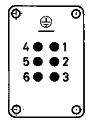
Hood top-entry

250 V 10 A Han D® chapter 02	250 V 10 A Han DD® chapter 02	500 V 16 A Han E® Han® ES chapter 03	500 V 16 A Han® EE Han® EEE chapter 03	400/690 V 35 A Han® HsB chapter 07	830 V 16 A Han Hv E® Han® Hv ES chapter 04	160 V – 690 V 10 A – 100 A Han-Com® chapter 05	50 V – 5000 V 5 A – 200 A Han- Modular® chapter 06
---------------------------------------	--	--	--	---	--	---	--

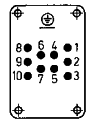
6



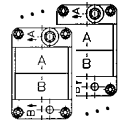
24 + ⊕



6 + ⊕

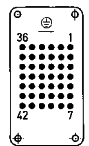


10 + ⊕

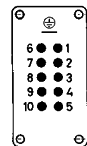


2 modules

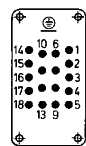
10



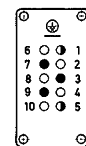
42 + ⊕



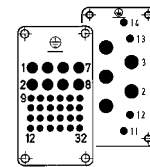
10 + ⊕



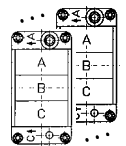
18 + ⊕



3 + ⊕

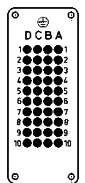


4/4 + ⊕
8/24 + ⊕

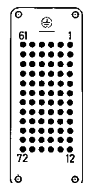


3 modules

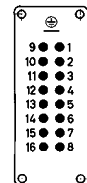
16



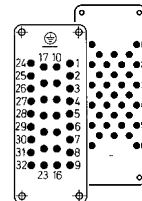
40 + ⊕



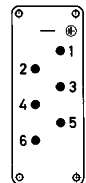
72 + ⊕



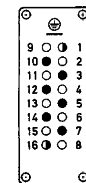
16 + ⊕



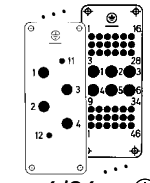
40 + ⊕
32 + ⊕



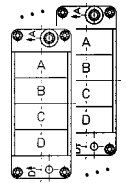
6 + ⊕



6 + ⊕

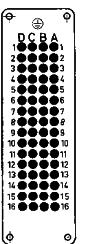


6/36 + ⊕
4/2 + ⊕

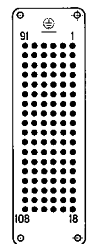


4 modules

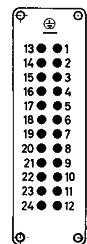
24



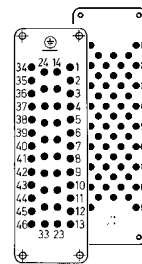
64 + ⊕



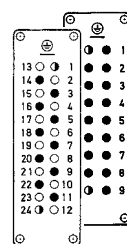
108 + ⊕



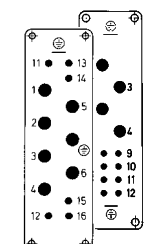
24 + ⊕



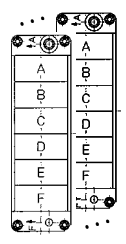
64 + ⊕
46 + ⊕



16 + ⊕
10 + ⊕

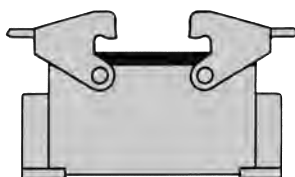


4/8 + ⊕
6/6 + ⊕

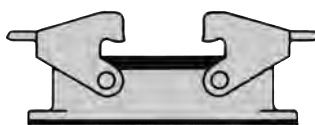


6 modules

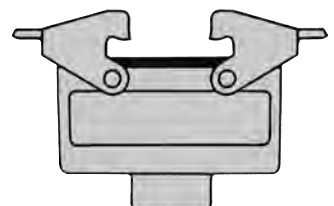
Housing surface mounting



Housing bulkhead mounting



Hood cable to cable coupling



32

suitable for 2 inserts of size 16 B

48

suitable for 2 inserts of size 24 B

Han

00

3

For a complete connector components may be ordered from the following sub headings

Cable entry protection

- Universal cable glands
- Special cable clamp with strain relief, bell mouthed cable fitting and anti-twist devices
- Cable gland with normal or multiple seal
- Extensive range of accessories

Hoods

- low or high construction
- top or side cable entry
- 1 or 2 locking levers

Male insert with

- screw terminal or crimp terminal (order contacts separately) or cage-clamp terminal

Female insert with

- screw terminal or crimp terminal (order contacts separately) or cage-clamp terminal

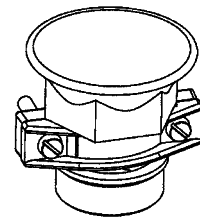
Housings

- Housing (bulkhead mounting) with or without thermoplastic or metal covers
- 1 or 2 locking levers
- Housing (surface mounting) low or high construction with or without thermoplastic or metal covers
- 1 or 2 locking levers
- 1 or 2 cable entries
- Hood (cable to cable) low or high construction for cable to cable connections

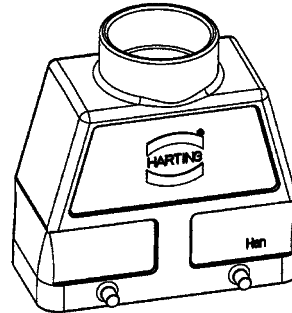
Accessories

- Protective covers available
- Code and guide pins for coding
- Special insert fixing screws for use without hoods and housings
- Label according to CSA-approval

Suitable hoods and housings will be found on the same page.



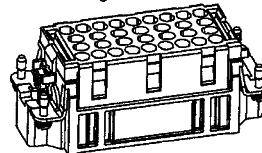
Cable clamp



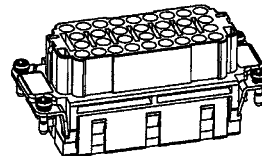
Hood



Male contacts



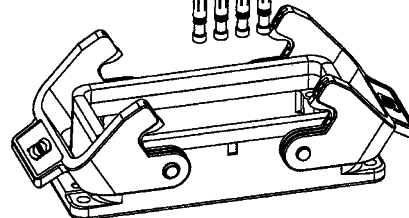
Male insert



Female insert



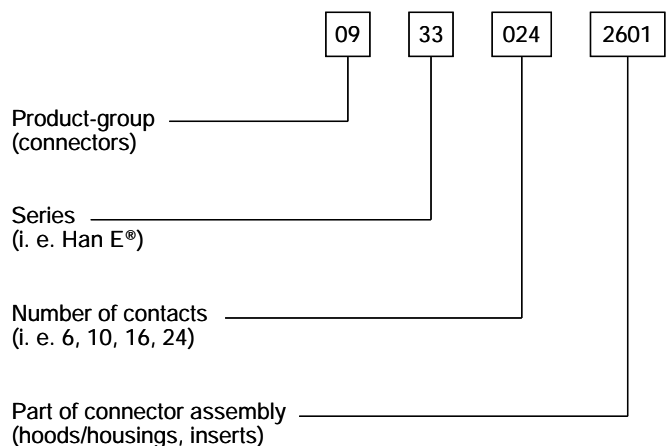
Female contacts



Housing

Part number explanation

Our computerized ordering system uses the following code:



The connector's housing, sealing and locking mechanism protect the connection from external influences such as mechanical shocks, foreign bodies, humidity, dust, water or other fluids such as cleansing and cooling agents, oils, etc. The degree of protection the housing offers is explained in the IEC 60529, DIN EN 60529, standards that categorize enclosures according to foreign body and water protection.

The following table shows the different degrees of protection.

Code letters
(International Protection)

First Index Figure
(Foreign bodies protection)

Second Index Figure
(Water protection)

IP

6

5

Index figure	Degree of protection			Index figure	Degree of protection		
0	No protection		No protection against accidental contact, no protection against solid foreign bodies	0	No protection against water		No protection against water
1	Protection against large foreign bodies		Protection against contact with any large area by hand and against large solid foreign bodies with $\varnothing > 50$ mm	1	Drip-proof		Protection against vertical water drips
2	Protection against medium sized foreign bodies		Protection against contact with the fingers, protection against solid foreign bodies with $\varnothing > 12$ mm	2	Drip-proof		Protection against water drips (up to a 15° angle)
3	Protection against small solid foreign bodies		Protection against tools, wires or similar objects with $\varnothing > 2.5$ mm, protection against small foreign solid bodies with $\varnothing > 2.5$ mm	3	Spray-proof		Protection against diagonal water drips (up to a 60° angle)
4	Protection against grain-shaped foreign bodies		As 3 however $\varnothing > 1$ mm	4	Splash-proof		Protection against splashed water from all directions
5	Protection against injurious deposits of dust		Full protection against contact. Protection against interior injurious dust deposits	5	Hose-proof		Protection against water (out of a nozzle) from all directions
6	Protection against ingress of dust		Total protection against contact. Protection against penetration of dust	6	Strong hose-proof		Protection against strong water (out of a nozzle) from all directions
				7	Protected against immersion		Protected against temporary immersion
				8	Water-tight		Protected against water pressure
				9k*	Protected against high-pressure		Protected against water from high-pressure / steam jet cleaners

Description according to IEC 60529
* ... IP 9k is not part of IEC 60529

Han

Standard Hoods/Housings

Field of application	for excellent mechanical and electrical protection in demanding environments, for example, in the automobile and mechanical engineering industries also for process and regulation control applications
Distinguishing feature	hoods/housings colour-coded grey (RAL 7037)
Material of hoods/housings	Die cast light alloy
Locking levers	Han-Easy Lock®
Cable entry protection	Optional special cable clamp for hoods with strain relief, bell mouthed cable fitting and anti-twist devices



Han® M Hoods/Housings for harsh environmental requirements

Field of application	for all applications where aggressive environmental conditions and extreme climatic atmospheres are encountered
Distinguishing feature	hoods/housings colour-coded black (RAL 9005)
Material of hoods/housings	Die cast light alloy, corrosion resistant
Locking levers	Corrosion resistant stainless steel
Cable entry protection	Special cable clamp for hoods with strain relief, bell mouthed cable fitting and anti-twist devices



Han® EMC Hoods/Housings with high shielding efficiency

Field of application	For sensitive interconnections that have to be shielded against electrical, magnetic or electro-magnetic interferences
Distinguishing feature	Electrically conductive surface, internal seal
Material of hoods/housings	Die cast light alloy
Locking levers	Han-Easy Lock®
Cable entry protection	EMC cable clamp in order to connect the cable shielding to the hood without interruption of the shielding



Han® HPR Hoods/Housings, pressure tight

Field of application	For external electrical interconnections in vehicles, in highly demanding environments and wet areas, as well as for sensitive interconnections that have to be shielded
Distinguishing feature	hoods/housings colour-coded black, internal seal (RAL 9005)
Locking parts	Stainless steel
Material of hoods/housings	Die cast light alloy, corrosion resistant
Cable entry protection	Optional universal cable clamp for hoods with strain relief, or special cable clamp with bell mouthed cable fitting and anti-twist devices (use of adapter is necessary)



Han-INOX® Hoods/Housings

Field of application for excellent mechanical and electrical protection in demanding environments, for example, in the food, automobile and mechanical engineering industries also for process and regulation control applications

Distinguishing feature matt-finished metal surface

Material of hoods/housings Stainless steel

Locking levers Stainless steel



Han

Recommended tightening torque for housings, bulkhead mounting

Series	Number of screws	Size of screws	Recommended Tightening torque (Nm)	Remarks
Han® 3 A	2	M 3	0.8 ... 1.0	Gasket
Han® 10 A / 16 A	4	M 3	0.8 ... 1.0	Gasket
Han® 15 EMV / 25 EMV	4	M 3	min. 1.0	O-ring
Han® 32 A	4	M 4	0.8 ... 1.0	Gasket
Han® 6 B / 10 B / 16 B / 24 B	4	M 4	0.8 ... 1.0	Gasket
Han® 32 B	4	M 5	min. 2.5	O-ring
Han® 48 B	4	M 6	min. 3.0	O-ring
Han® 3 HPR	2	M 4	min. 1.0	O-ring
Han® 6 / 10 / 16 / 24 HPR	4	M 6	min. 3.0	O-ring
Han® 48 HPR	4	M 8	min. 5.0	O-ring

To offer safe protection the surface condition for mounting panel should be according to DIN 4766:

- Waviness ≤ 0.2 mm on 200 mm distance
- Roughness R_a ≤ 16 μ m

General remark for assembling

During assembly and handling of the connector, any kind of damage to the surface of the housing must be avoided to guarantee the correct surface protection.

Han

Housing with 2 levers Han-Easy Lock®

- easy operation
- high degree of pressure tightness
- reliable locking guaranteed by 4 locking points
- space saving mounting
- ideal for mounting side by side
- cable to cable connection is possible
- high seal force

Details of Han-Easy Lock® see chapter 31



Housing with 1 lever Han-Easy Lock®

- easily accessible, even with side entry
- possibility to lock protective covers on the housing
- cable to cable connection is possible
- 2 locking points on the longitudinal axis



1 lever in central position

- easily accessible, even with side entry
- 2 locking points on the lateral axis
- space saving mounting
- ideal for mounting side by side
- single hand operation



Screw locking / toggle locking

- hexagon nuts tightened with spanner
- highest degree of pressure tightness
- easily accessible, also with side entry
- use of tools avoids access by unauthorized persons



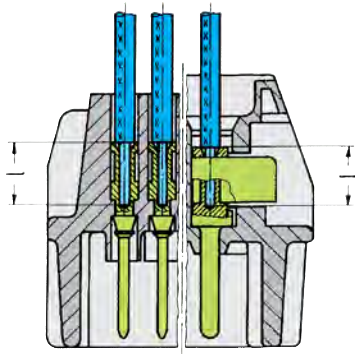
Hood with 2 levers Han-Easy Lock®

- easy operation
- high degree of pressure tightness
- ideal for mating to housings with protection cover
- high seal force

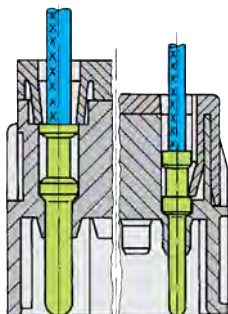


Details of Han-Easy Lock® see chapter 31

Crimp connection



Han DD®
 Han D®
 R 15
 Han-Modular® (10 A)
 Han E®
 Han A®
 Han Hv E®



Han-Com® (40 A)
 Han-Modular® (40 A)
 Han E®
 Han A®
 Han Hv E®
 Han® EE
 Han® EEE
 Han-Modular® (16 A)
 Han® Q

A perfect crimp connection is gastight, therefore corrosion free and amounts to a cold weld of the parts being connected. For this reason, major features in achieving high quality crimp connections are the design of the contact crimping parts and of course the crimping tool itself. Wires to be connected must be carefully matched with the correct size of crimp contacts. If these basic requirements are met, users will be assured of highly reliable connections with low contact resistance and high resistance to corrosive attack.

The economic and technical advantages are:

- Constant contact resistance as a result of precisely repeated crimp connection quality
- Corrosion free connections as a result of cold weld action
- Pre-preparation of cable forms with crimp contacts fitted
- Optimum cost cable connection

Requirements for crimp connectors are laid down in DIN EN 60352-2 as illustrated in the table.

Pull out force of stranded wire

The main criterion by which to judge the quality of a crimp connection is the retention force achieved by the wire conductor in the terminal section of the contact. DIN EN 60352-2 defines the extraction force in relation to the cross-section of the conductor. When fitted using HARTING crimping tools and subject to their utilization in an approved manner, our crimp connectors comply with the required extraction forces.

Crimping tools

Crimping tools (hand operated or automatic) are carefully designed to produce with high pressure forming parts a symmetrical connection of the crimping part of the contact and the wire being connected with the minimum increase in size at the connection point. The positioner automatically locates the crimp and wire at the correct point in the tool.

A ratchet in the tool performs 2 functions:

- It prevents insertion of the crimp into the tool for crimping before the jaws are fully open
- It prevents the tool being opened before the crimping action is completed

Identical, perfectly formed, connections can be produced using this crimping system.

Crimp-cross section



HARTING-crimp profile



BUCHANAN crimp profile

Tensile strength of crimped connections
 (Table 1 of the DIN EN 60352-2)

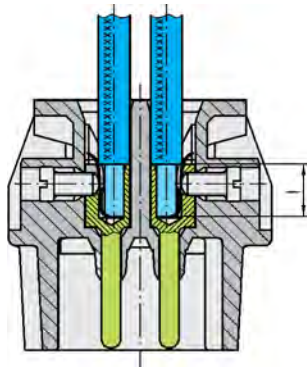
Conductor cross-section		Tensile strength
mm ²	AWG	N
0.05	30	6
0.08	28	11
0.12	26	15
0.14		18
0.22	24	28
0.25		32
0.32	22	40
0.5	20	60
0.75		85
0.82	18	90
1.0		108
1.3	16	135
1.5		150
2.1	14	200
2.5		230
3.3	12	275
4.0		310
5.3	10	355
6.0		360
8.4	8	370
10.0		380

Wire gauge		Internal diameter	Stripping length l (mm)		
(mm ²)	AWG	Ø (mm)	Han® DD Han® D R15 Han-Modular® (10 A)	Han E® Han A® Han Hv E®	Han® C
0.14 ... 0.37	26 ... 22	0.9	8	-	-
0.5	20	1.15	8	7.5	-
0.75	18	1.3	8	7.5	-
1	18	1.45	8	7.5	-
1.5	16	1.75	8	7.5	9.5
2.5	14	2.25	6	7.5	9.5
4	12	2.85	-	7.5	9.5
6	10	3.5	-	-	9.5
10	8	4.3	-	-	12-18

	Conductor cross-section	Ø	Stripping length
Han® 100 A Modul	10 mm ²	4.3 mm	19.0 mm
	16 mm ²	5.5 mm	19.0 mm
	25 mm ²	7.0 mm	19.0 mm
	35 mm ²	8.2 mm	16.0 mm
Han® HC Modular 350	35 mm ²	8.2 mm	26.0 mm
	50 mm ²	10.0 mm	28.0 mm
	70 mm ²	11.5 mm	28.0 mm
	95 mm ²	13.5 mm	30.0 mm
Han® HC Modular 650	120 mm ²	15.5 mm	24.0 mm
	240 mm ²	22.5 mm	50.0 mm

for fine stranded wires according to IEC 60228 class 5

Screw terminal



Screw terminals meet VDE 0609 /EN 60 999. Dimensions and tightening torques for testing are shown in following table.

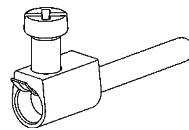
Screw dimensions and tightening torque for screw terminals

Wire gauge (mm ²)	1.5	2.5	4	6	10	16
Screw thread	M3	M3	M3.5	M4	M4	M6
Test moment of torque (Nm)	0.5	0.5	0.8	1.2	1.2	1.2*
min. pull-out for stranded wire (N)	40	50	60	80	90	100

* for screws without heads

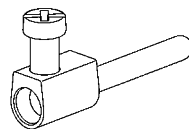
The relevant regulations state that in the case of

- Terminals with wire protection



the use of ferrules is not necessary. Series Han E®, Han® HsB, Han Hv E®, Han® K 6/12, Han® K 6/6

- Terminals without wire protection



The insulation is first stripped and then a wire ferrule must be used.

Series Han® K 4/x, Han A®, Staf®

Screw terminal

Inserts	Wire protection		min. wire gauge		max. wire gauge*		Stripping length mm
	Yes	No	mm ²	AWG	mm ²	AWG	
Han® 3 A, Han® 4 A		X	0.75	18	1.5	16	4.5
Han® 10 A, 16 A, 32 A		X	0.75	18	2.5	14	7.5
Han E®, Hv E®	X		0.75	18	2.5	14	7.5
Han® HsB	X		1.5	16	6	10	11.5
Han® K 6/6, K 6/12 (signal contacts)	X		0.2	24	2.5	14	7.5
Han® K 4/2, K 4/8 (signal contacts)		X	0.5	20	2.5	14	7.5
Han® K 4/0, K 4/2, K 4/8 (power contacts)		X	1.5	16	16	6	14
Han E® AV, Han D® AV	X		0.2	24	2.5	14	8 ... 11
Staf®		X	0.5	18	1.5	16	4.5

* Rated wire gauge according to DIN EN 60 999-1

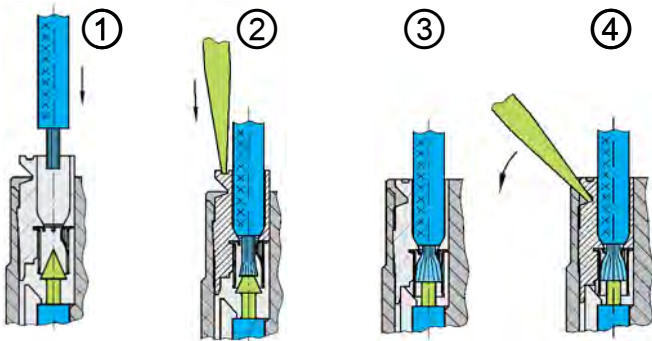
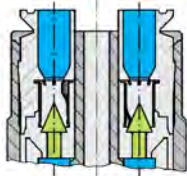
Recommended screw drivers and tightening torques

Screw size	Connector type	Tightening torque (Nm)	Tightening torque (lbf)	Recommended screw driver
M3	Screw terminals: Han® 3A /4A /Q5/0 (PE) / Staf®	0.25	0.20	slotted 0.4 x 2.5
M3	Screw terminals: Han D® AV, Han E® AV, Han® K6/6, K6/12 (signal)	0.5	0.4	slotted 0.5 x 3.0
M3	Screw terminals: Han® 10A - 32A, Han® E, Hv E®, Han® HsB	0.5	0.4	slotted 0.6 x 3.5 or PH 1
M3	Han® fixing screws	0.5	0.4	slotted 0.6 x 3.5 or PH 1 or PH 2
M3	Han® guiding pins and bushes	0.5	0.4	slotted 1 x 6.0
M3.5	Ground terminals: Han® 10A, Han® 16A, Han 15 D®, Han 25 D®	0.8	0.6	slotted 0.6 x 3.5 or PH 1
M4	Screw terminals: Han® HsB	1.20	0.90	slotted 0.6 x 3.5 or PH 1
M4	Ground terminals: Han E®, Han 40 D®, Han 64 D®, Han DD®, Han® K 8/24, K6/6, K8/0	1.20	0.90	slotted 0.8 x 4.5 or PH 2
M5	Ground terminals: Han® HsB, Han® K12/2, K4/X, K6/12, K6/36	2	1.40	slotted 0.8 x 4.5 or PH 2
M6	Screw terminals: Han® K power contacts, Han-Eco® PE module	for Han® K see chapter 05, Han-Eco® PE module (1,2-3 Nm)		slotted 0,8 x 4,5

Preferred size

Increasing the tightening torque does not improve considerably the contact resistances. The torque moments were determined when optimum mechanical, thermal and electrical circumstances were given. If the recommended figures are considerably exceeded the wire or the termination can be damaged.

Han-Quick Lock® termination technique



This new termination technique from HARTING combines the reliability and the simple operation of the cage clamp termination with the low space requirements of crimp technology.

Han-Quick Lock® is ideally suited to high contact densities and is considerably superior over other termination techniques. No other technology is so simple, space saving and fast. For this vibration safe termination, no special tools are necessary.

- Fast, simple and robust termination technique
- Field assembly without a special tool
- Compatible also to inserts with other termination technologies
- Combines high contact density similar to crimp termination with the simple connection like a cage clamp terminal

Insert connectors:

Han® 3 A
 Han® 4 A
 Han® 7 D
 Han® 8 D
 Han® Q 4/2
 Han® Q 5/0
 Han® Q 8/0
 Han® Q 12/0
 Han® EE modules
 Han® DD modules
 Han® PushPull Power 4/0

Technical characteristics:

Material

Isolation body	Polycarbonate
Active termination element	Polycarbonate
Quick-Lock spring	Stainless steel
Contact	Copper alloy

Blue slide

Terminal cross-section
 0.5 ... 2.5 mm² / AWG 20 ... 14

Black slide

Terminal cross-section
 0.25 ... 1.5 mm² / AWG 23 ... 16

Stripping length

10 mm

Insulating resistance

> 10¹⁰ Ohm

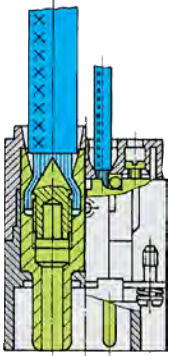
Flammability

according to UL 94 V 0

Termination tool

Screwdriver
 0.4 x 2.5 mm bzw. 0.5 x 3.0 mm

Axial screw terminal



This termination combines the benefits of screw and crimp terminations:

- Less space required
- Easy handling
- No special tools

Remarks on the axial screw technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Background:

According to DIN VDE 0295 for cables and insulated wires the wire gauge will be determined by conductance (Ω/km) and maximum wire diameter. A minimum cable diameter is not specified! (Example: nominal wire gauge $95 \text{ mm}^2 \rightarrow$ real, geometric wire gauge 89 mm^2)

Recommendation:

The use of cables with an extreme geometric wire gauge deviation should be checked separately with the use of the axial screw termination.

Strain relief:

For safe operation the cable must be fixed at an adequate distance from the terminal to ensure that the contact is protected against radial stress.

Details for professional strain relief design can be found in the standard DIN VDE 0100-520: 2003-06 (see enclosed table).

Outer cable diameter (mm)	Maximum fixing distance (mm)	
	horizontal	vertical
$D \leq 9$	250	400
$9 < D < 15$	300	400
$15 < D < 20$	350	450
$20 < D < 40$	400	550

Cables:

The axial screw technology is developed for wires according to DIN EN 60 228 class 5 (see table: Wire assembly according to DIN EN 60 228). Deviating cable assemblies have to be tested separately.

Assembly remarks:

Before starting the assembly the user must ensure that the axial cone is screwed fully downward to completely open the contact chamber.

After stripping the cable insulation the strands must not be twisted and the maximum cable insulation must not exceed the recommended dimension.

Insert the wire completely into the contact chamber until the copper strands reach the bottom. Keep the cable in position while applying the recommended tightening torque.

Maintenance of the axial screw termination:

After initial assembly it is only allowed to reapply the recommended tightening torque once in order to avoid damage to individual cable strands.

Wire gauge (mm ²)	Stranded wires DIN EN 60228 class 2	Fine stranded wires DIN EN 60228 class 5	Super fine stranded wires DIN EN 60228 class 6			
			28 x 0.15	64 x 0.10	131 x 0.07	256 x 0.05
0.5	7 x 0.30	16 x 0.20	28 x 0.15	64 x 0.10	131 x 0.07	256 x 0.05
0.75	7 x 0.37	24 x 0.20	42 x 0.15	96 x 0.10	195 x 0.07	384 x 0.05
1	7 x 0.43	32 x 0.20	56 x 0.15	128 x 0.10	260 x 0.07	512 x 0.05
1.5	7 x 0.52	30 x 0.25	84 x 0.15	192 x 0.10	392 x 0.07	768 x 0.05
2.5	7 x 0.67	50 x 0.25	140 x 0.15	320 x 0.10	651 x 0.07	1280 x 0.05
4	7 x 0.85	56 x 0.30	224 x 0.15	512 x 0.10	1040 x 0.07	
6	7 x 1.05	84 x 0.30	192 x 0.20	768 x 0.10	1560 x 0.07	
10	7 x 1.35	80 x 0.40	320 x 0.20	1280 x 0.10	2600 x 0.07	
16	7 x 1.70	128 x 0.40	512 x 0.20	2048 x 0.10		
25	7 x 2.13	200 x 0.40	800 x 0.20	3200 x 0.10		
35	7 x 2.52	280 x 0.40	1120 x 0.20			
50	19 x 1.83	400 x 0.40	705 x 0.30			
70	19 x 2.17	356 x 0.50	990 x 0.30			
95	19 x 2.52	485 x 0.50	1340 x 0.30			
120	37 x 2.03	614 x 0.50	1690 x 0.30			
150	37 x 2.27	765 x 0.50	2123 x 0.30			
185	37 x 2.52	944 x 0.50	1470 x 0.40			
240	61 x 2.24	1225 x 0.50	1905 x 0.40			

Wire assembly according to DIN EN 60 228

Han

Insert	Wire gauge	Stripping length	Tightening torque	Max. cable insulation diameter	Size hexagon recess	Insert dimension for cable indication (ISK)
	(mm ²)	(mm)	(Nm)	(mm)	(SW)	(mm)
Han® K 4/4 finger proofed	6 ... 16	6 mm ² : 11+1 10 mm ² : 11+1 16 mm ² : 11+1	6 mm ² : 2 10 mm ² : 3 16 mm ² : 4	8.9	2.5	7.4 PE: 8.9
	10 ... 22	10 mm ² : 11+1 16 mm ² : 11+1 22 mm ² : 11+1	10 mm ² : 3 16 mm ² : 4 22 mm ² : 4	8.9 8.9 11	2.5	7.4 7.4 5.4 PE: 8.9
Han® K 4/4	6 ... 16	6 mm ² : 11+1 10 mm ² : 11+1 16 mm ² : 11+1	6 mm ² : 2 10 mm ² : 3 16 mm ² : 4	8.9	2.5	7.4 PE: 8.9
	10 ... 22	10 mm ² : 11+1 16 mm ² : 11+1 22 mm ² : 13+1	10 mm ² : 3 16 mm ² : 4 22 mm ² : 4	8.9 8.9 11	2.5	7.4 7.4 5.4 PE: 8.9
Han® K 6/12	2.5 ... 8	2.5 mm ² : 5+1 4 mm ² : 5+1 6 mm ² : 8+1 8 mm ² : 8+1	2.5 mm ² : 1.5 4 mm ² : 1.5 6 mm ² : 2 8 mm ² : 2	6.2	2	7.4
	6 ... 10	6 mm ² : 8+1 8 mm ² : 8+1 10 mm ² : 8+1	6 mm ² : 2 8 mm ² : 2 10 mm ² : 2	6.2	2	4.7
Han® K 6/6	10 ... 25	10 mm ² : 13+/-1 16 mm ² : 13+/-1 25 mm ² : 13+/-1	10 mm ² : 6 16 mm ² : 6 25 mm ² : 7	11.4	4	4.9
	16 ... 35	16 mm ² : 13+/-1 25 mm ² : 13+/-1 35 mm ² : 13+/-1	16 mm ² : 6 25 mm ² : 7 35 mm ² : 8	11.4	4	4.9
Han® K 8/0	10 ... 25	10 mm ² : 13+/-1 16 mm ² : 13+/-1 25 mm ² : 13+/-1	10 mm ² : 6 16 mm ² : 6 25 mm ² : 7	11.4	4	4.75
Han® Q 2/0 Han® Q 2/0 High Voltage	2.5 ... 10	2.5 mm ² : 8+1 4 mm ² : 8+1 6 mm ² : 8+1 10 mm ² : 8+1	2.5 mm ² : 1.8 4 mm ² : 1.8 6 mm ² : 1.8 10 mm ² : 1.8	7.3	2	5.6
Han® Q 4/2 Han® Q 4/2 with Han-Quick Lock®	4 ... 10	4 mm ² : 8+1 6 mm ² : 8+1 10 mm ² : 8+1	4 mm ² : 1.8 6 mm ² : 1.8 10 mm ² : 1.8	7.3	2	5.6
Han® 200 A module without PE Han® 200 A module with PE	25 ... 40	25 mm ² : 16 40 mm ² : 16	25 mm ² : 8 40 mm ² : 8	12 16	5	0
	40 ... 70	40 mm ² : 16 70 mm ² : 16	40 mm ² : 9 70 mm ² : 10	12 16	5	0
Han® 100 A module	6 ... 10	6 mm ² : 13+/-1 8 mm ² : 13+/-1 10 mm ² : 13+/-1	6 mm ² : 4 8 mm ² : 4 10 mm ² : 4	11.4	2.5	4.9
	10 ... 25	10 mm ² : 13+/-1 16 mm ² : 13+/-1 25 mm ² : 13+/-1	10 mm ² : 6 16 mm ² : 6 25 mm ² : 7	11.4	4	4.9
	16 ... 35	16 mm ² : 13+/-1 25 mm ² : 13+/-1 35 mm ² : 13+/-1	16 mm ² : 6 25 mm ² : 7 35 mm ² : 8	11.4	4	4.9
	38	38 mm ² : 13+/-1	38 mm ² : 8	11.4	4	4.9
Han® 70 A module	6 ... 16	6 mm ² : 11+1 10 mm ² : 11+1 16 mm ² : 11+1	6 mm ² : 2 10 mm ² : 3 16 mm ² : 4	8.9	2.5	7.4
	14 ... 22	14 mm ² : 12.5+1 16 mm ² : 12.5+1 22 mm ² : 12.5+1	14 mm ² : 4 16 mm ² : 4 22 mm ² : 4	10	2.5	5.9
Han® 40 A module	2.5 ... 8	2.5 mm ² : 5+1 4 mm ² : 5+1 6 mm ² : 8+1 8 mm ² : 11+1	2.5 mm ² : 1.5 4 mm ² : 1.5 6 mm ² : 2 10 mm ² : 2	4 4 6 10.5	2	4.7
	6 ... 10	6 mm ² : 8+1 10 mm ² : 11+1	6 mm ² : 2 10 mm ² : 2	6 10.5	2	4.7

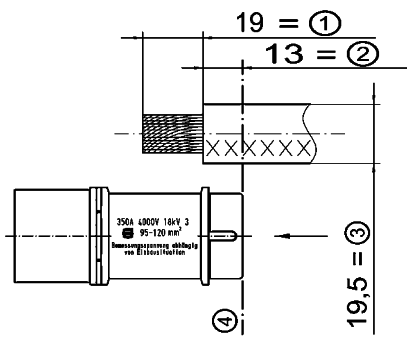
Insert	Wire gauge	Stripping length	Tightening torque	Max. cable insulation diameter	Size hexagon recess	Insert dimension for cable indication (ISK)
	(mm ²)	(mm)	(Nm)	(mm)	(SW)	(mm)
Han® C module with axial screw terminal	2.5 ... 8	2.5 mm ² : 5+1 4 mm ² : 5+1 6 mm ² : 8+1 8 mm ² : 8+1	2.5 mm ² : 1.5 4 mm ² : 1.5 6 mm ² : 2 8 mm ² : 2	4 4 6 8.2	2	5.2
	6 ... 10	6 mm ² : 8+1 10 mm ² : 11+1	6 mm ² : 2 10 mm ² : 2	6 8.2	2	5.2
Han® K3/0 straight	25 ... 40	25 mm ² : 22 40 mm ² : 22	25 mm ² : 8 40 mm ² : 8	15	5	8.2
	35 ... 70	35 mm ² : 22 50 mm ² : 22 70 mm ² : 22	35 mm ² : 8 50 mm ² : 9 70 mm ² : 10	15	5	8.2
Han® K3/0 angled	25 ... 40	25 mm ² : 22 40 mm ² : 22	25 mm ² : 8 40 mm ² : 8	15	5	9
	35 ... 70	35 mm ² : 22 50 mm ² : 22 70 mm ² : 22	35 mm ² : 8 50 mm ² : 9 70 mm ² : 10	15	5	9
Han® K3/2 straight	35 ... 70 PE: 25 ... 40	35 mm ² : 22 50 mm ² : 22 70 mm ² : 22 PE: 14	35 mm ² : 8 50 mm ² : 9 70 mm ² : 10	power: 15 PE: 10	5	power: 8.2 PE: 7.2
	25 ... 40	25 mm ² : 22 40 mm ² : 22 PE: 14	25 mm ² : 8 40 mm ² : 8	power: 15 PE: 10	5	power: 9.0 PE: 7.2
Han® K3/2 angled	35 ... 70 PE: 25 ... 40	35 mm ² : 22 50 mm ² : 22 70 mm ² : 22	35 mm ² : 8 50 mm ² : 9 70 mm ² : 10	power: 15 PE: 10	5	power: 9.0 PE: 7.2
	25 ... 40	25 mm ² : 22 40 mm ² : 22 PE: 14	25 mm ² : 8 40 mm ² : 8	power: 15 PE: 10	5	power: 9.0 PE: 7.2
Han® HC Modular 350	20 ... 35	20 mm ² : 19+1 35 mm ² : 19+1	20 mm ² : 8 35 mm ² : 8	19.5	5	13
	35 ... 70	35 mm ² : 19+1 50 mm ² : 19+1 70 mm ² : 19+1	35 mm ² : 8 50 mm ² : 10 70 mm ² : 12	19.5	5	13
	95 ... 120	95 mm ² : 19+1 120 mm ² : 19+1	95 mm ² : 14 120 mm ² : 16	19.5	5	13
Ground contact for Han® HC Modular	35 ... 70	35 mm ² : 19+1 50 mm ² : 19+1 70 mm ² : 19+1	35 mm ² : 8 50 mm ² : 10 70 mm ² : 12	-	5	-
Han® HC Modular 650	60 ... 70	60 mm ² : 23+2 70 mm ² : 23+2	60 mm ² : 12 70 mm ² : 12	27	8	28
	70 ... 120	70 mm ² : 23+2 95 mm ² : 23+2 120 mm ² : 23+2	70 mm ² : 12 95 mm ² : 14 120 mm ² : 16	26.5	8	28
	150 ... 185	150 mm ² : 23+2 185 mm ² : 23+2	150 mm ² : 17 185 mm ² : 18	26.5	8	28

Overview inserts with axial screw terminal

Insulating base dimension for the cable marking (ISK)

Marking the proper cable position for the axial screw connection contact point:

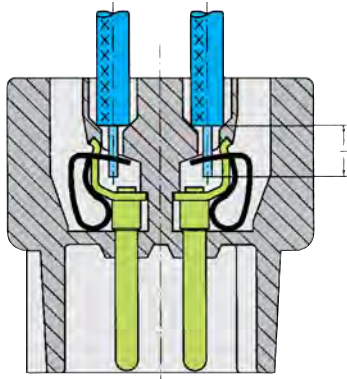
The user can attach a marker to the cable sheathing in order to specify the proper point for tightening the axial screw on the connecting cable. If the cable is pushed into the insulating base up to the marker (where the marker is flush with the upper edge of the insulating base), then the cable is in the proper position and may be connected. The following figure (on the next page) illustrates this process when using the Han® HC Modular 350 contact. The marker and the upper edge of the insulating base are at the same level (as indicated by the dashed line).



- ① stripping length
- ② insulator dimension (ISK dimension)
- ③ max. cable insulation diameter
- ④ sink line

Han

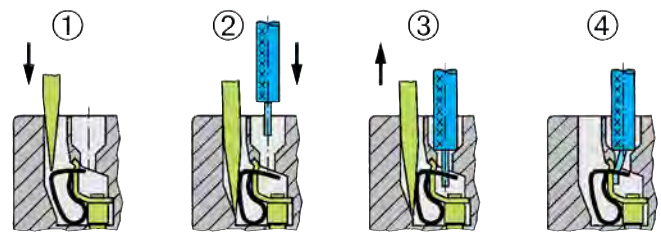
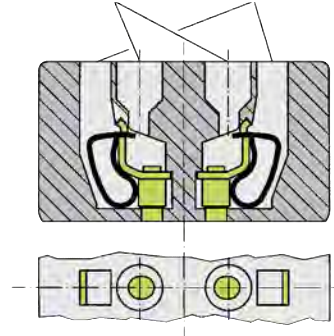
Cage-clamp terminal



This termination method requires very little preparation of the wire and no special tools, leading to a low installed cost and a high degree of mechanical security.

- For all stranded and solid wires with a cross section 0.14 to 2.5 mm².
- Ease of termination. Conductor and screwdriver are in same plane.
- No special preparation of stripped conductor.
- The larger the conductor the higher the clamping force.
- The termination is vibration-proof.
- Guaranteed constant low resistance connection of the cage-clamp terminal.
- The cage-clamp system is internationally approved. VDE, CSA, UL, ÖVE, SEMKO, LCIE (France), Germanischer Lloyd, DET Norske Veritas

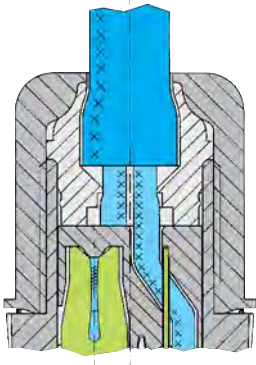
One conductor per termination Slot for screwdriver



Screwdriver width: 3.0 x 0.5 mm

Inserts	max. wire gauge		Stripping length l (mm)
	(mm ²)	AWG	
Han® ES, Han® Hv ES	0.14 ... 2.5	26 ... 14	7 ... 9
Han® ESS	0.14 ... 2.5	26 ... 14	9 ... 11
Han® K 4/4	0.14 ... 2.5	26 ... 14	7 ... 9
Han® ES Modul	0.14 ... 2.5	26 ... 14	7 ... 9

IDC (Insulation displacement terminal)



Inserts	max. wire gauge	
	(mm ²)	AWG
M8-S/M12-S	0.14 ... 0.34	26 ... 22
Circular connectors M12 angled	0.25 ... 0.50	24 (7/32) ... 22
Circular connectors M12-L	0.34 ... 0.75	22 ... 18
M12-L PROFIBUS	0.25 ... 0.34	24 ... 22
M12-L Ethernet	0.25 ... 0.34	24 ... 22
	0.34 ... 0.5	22 ... 18
Panel feed through Pg 13.5 /M20	0.75 ... 1.50	18 ... 16
Panel feed through Pg 9	0.25 ... 0.50	24 (7/32) ... 22
HARAX® 3 A	0.75 ... 1.5	18 ... 16

General

The choice of connectors entails more than just considering factors such as functionality, the number of contacts, current and voltage ratings. It is equally important to take account of where the connectors are to be used and the prevailing ambient conditions. This in turn means that, dependent on the conditions under which they are to be installed and pursuant to the relevant standards, different voltage and current ratings may apply for the same connectors.

The most important influencing factors and the corresponding electrical characteristics of the associated connectors are illustrated here in greater detail.

Overvoltage category

The overvoltage category is dependent on the mains voltage and the location at which the equipment is installed. It describes the maximum overvoltage resistance of a device in the event of a power supply system fault, e. g. in the event of a lightning strike.

The overvoltage category affects the dimensioning of components in that it determines the clearance air gap. Pursuant to the relevant standards, there are 4 overvoltage categories.

Equipment for industrial use, such as fall HARTING heavy duty Han connector, fall into Overvoltage Category III.

Extract from DIN VDE 0110-1 and IEC 60664-1, Para. 2.2.2.1.1

Equipment of overvoltage category IV is for use at the origin of the installation.

Note 1: Examples of such equipment are electricity meters and primary overcurrent protection equipment.

Equipment of overvoltage category III is equipment in fixed installations and for cases where the reliability and the availability of the equipment is subject to special requirements.

Note 2: Examples of such equipment are switches in the fixed installation and equipment for industrial use with permanent connection to the fixed installation.

Equipment of overvoltage category II is energy-consuming equipment to be supplied from the fixed installation.

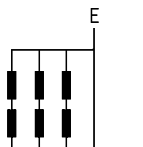
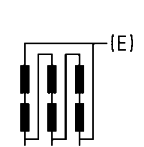


Note 3: Examples of such equipment are appliances, portable tools and other household equipment with similar loads.

If such equipment is subjected to special requirements with regard to reliability and availability, overvoltage category III applies.

Equipment of overvoltage category I is equipment for connection to circuits in which measures are taken to limit transient overvoltages to an appropriately low level.

Note: Examples are protected electronic circuits.

Rated impulse voltages (Table B2 of DIN EN 60664-1)

Voltage line-to-neutral derived from nominal voltages A.C. or D.C. up to and including	Nominal voltages presently used in the world (= Rated insulation voltage of equipment)				Rated impulse voltage for equipment			
	Three-phase 4-wire systems with earthed neutral	Three-phase 3-wire systems earthed or un-earthed	Single-phase 2-wire systems A.C. or D.C.	Single-phase 3-wire systems A.C. or D.C.	Overvoltage category			
					I Special protected levels	II Level for electrical equipment (household and others)	III Level for distribution supply systems	IV Input level
V	V	V	V	V	V	V	V	V
50			12.5 24 25 30 42 48	30 ... 60	330	500	800	1500
100	66/115	66	60		500	800	1500	2500
150	120/208* 127/220	115, 120 127	100** 110, 220	100 ... 200** 110 ... 220 120 .. 240	800	1500	2500	4000
300	220/380, 230/400 240/415, 260/440 277/480	200**, 220 230, 240 260, 277	220	220 ... 440	1500	2500	4000	6000
600	347/600, 380/660 400/690, 417/720 480/830	347, 380, 400 415, 440, 480 500, 577, 600	480	480 ... 960	2500	4000	6000	8000
1000		660 690, 720 830, 1000	1000		4000	6000	8000	12 000

* ... Practice in the U.S.A and in Canada

** ... Practice in Japan

Pollution degree

The dimensioning of operating equipment is dependent on environmental conditions. Any pollution or contamination may give rise to conductivity that, in combination with moisture, may affect the insulating properties of the surface on which it is deposited. The pollution degree influences the design of components in terms of the creepage distance.

The pollution degree is defined for exposed, unprotected insulation on the basis of environmental conditions.

HARTING heavy duty Han connectors are designed as standard for Pollution Degree 3.

Pollution degree 1
in air-conditioned or clean, dry rooms, such as computer and measuring instrument rooms, for example.

Pollution degree 2
in residential, sales and other business premises, precision engineering workshops, laboratories, testing bays, rooms used for medical purposes. As a result of occasional moisture condensation, it is to be anticipated that pollution/contamination may be temporarily conductive.

Pollution degree 3
in industrial, commercial and agricultural premises, unheated storage premises, workshops or boiler rooms, also for the electrical components of assembly or mounting equipment and machine tools.

Pollution degree 4
in outdoor or exterior areas such as equipment mounted on the roofs of locomotives or tramcars.

Extract from DIN EN 60664-1 (VDE 0110-1), Para. 4.6.2

Pollution degree 1: No pollution or only dry, non-conductive pollution occurs. The pollution has no influence.

Pollution degree 2: Only non-conductive pollution occurs except that occasionally a temporary conductivity caused by condensation is to be expected.

Pollution degree 3: Conductive pollution occurs or dry non-conductive pollution occurs which becomes conductive due to condensation which is to be expected.

Pollution degree 4: Continuous conductivity occurs due to conductive dust, rain or other wet conditions.

Special ruling for connectors

Subject to compliance with certain preconditions, the standard for connectors permits a lower pollution degree than that which applies to the installation as a whole. This means that in a pollution degree 3 environment, connectors may be used which are electrically rated for pollution degree 2.

The basis for this is contained in DIN EN 61984, Para. 6.19.2.3.

Extract from DIN EN 61984, Para. 6.19.2.3

For a connector with a degree of protection IP 54 or higher according to IEC 60529 the insulating parts inside the enclosure may be dimensioned for a lower pollution degree.

This also applies to mated connectors where enclosure is ensured by the connector housing and which may only be disengaged for test and maintenance purposes.

The conditions fulfill,

- a connector which is protected to at least IP 54 as per IEC 60529,
- a connector which is installed in a housing and which as described in the standard is disconnected for testing and maintenance purposes only,
- a connector which is installed in a housing and which when disconnected is protected by a cap or cover to at least IP 54,
- a connector located inside a switching cabinet to at least IP 54.

These conditions do not extend to connectors which when disconnected remain exposed to the industrial atmosphere for an indefinite period.

It should be noted that pollution can affect a connector from the inside of an installation outwards.

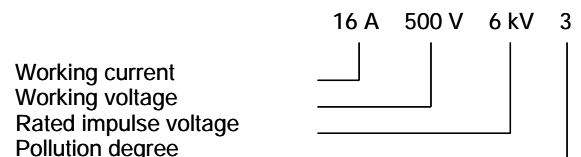
Typical applications in which to choose pollution degree 2 connectors:

- A connector serving a drive motor which is disconnected only for the purpose of replacing a defective motor, even when the plant or system otherwise calls for pollution degree 3.
- Connectors serving a machine of modular design which are disconnected for transport purposes only and enable rapid erection and reliable commissioning. In transit, protective covers or adequate packing must be provided to ensure that the connectors are not affected by pollution/contamination.
- Connectors located inside a switching cabinet to IP 54. In such cases, it is even possible to dispense with the IP 54 housings of the connectors themselves.

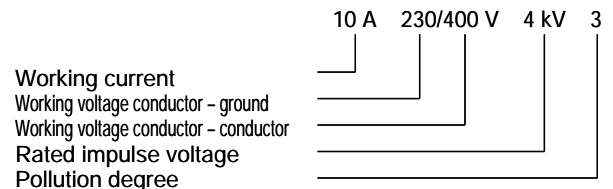
Specifying electrical data

Electrical data for connectors are specified as per DIN EN 61984.

This example identifies a connector suitable for use in an unearthed power system or earthed delta circuit (see page 00.22, Table B2 of DIN EN 60664-1):



This example identifies a connector suitable exclusively for use in earthed power systems (see page 00.22, Table B2 of DIN EN 60664-1):



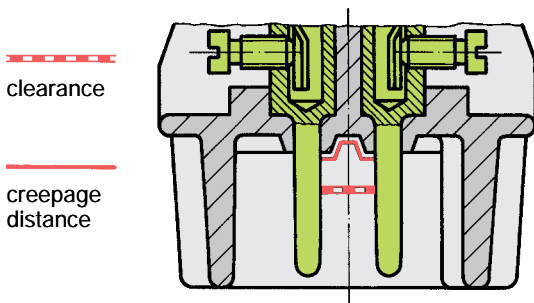
Other terms explained

Clearance air gap

The shortest distance through the air between two conductive elements (see DIN EN 60664-1 (VDE 0110-1), Para. 3.2). The air gaps are determined by the surge voltage withstand level.

Creepage distance

Shortest distance on the surface of an solid insulating material between two conductive elements (see DIN EN 60664-1 (VDE 0110-1), Para. 3.3). The creepage distances are dependent on the rated voltage, the pollution degree and the characteristics of the insulating material.

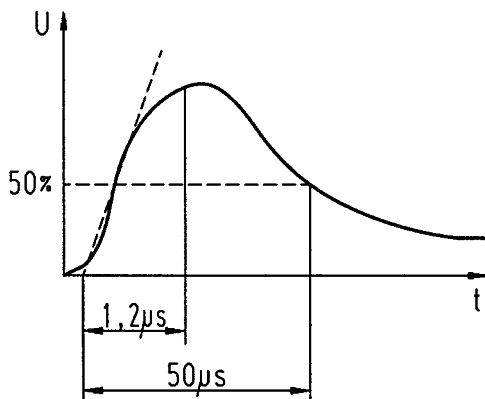


Working voltage

Fixed voltage value on which operating and performance data are based. More than one value for rated voltage or rated voltage range may be specified for the same connector.

Rated impulse voltage

The rated impulse voltage is determined on the basis of the overvoltage category and the nominal power supply voltage. This level in turn directly determines the test voltage for testing the overvoltage resistance of the connector (Waveform voltage in 1.2/50 μ s as per IEC 60060-1).



Working current

Fixed current, preferably at an ambient temperature of 40 °C, which the connector can carry on a permanent basis (without interruption), passing simultaneously through all contacts which are in turn connected to the largest possible conductors, without exceeding the upper temperature limit.

The dependence of the rated current on ambient temperature is illustrated in the respective derating diagrams.

Transient overvoltages

Short-term overvoltage lasting a few milliseconds or less, oscillatory or non-oscillatory, generally heavily damped (see DIN EN 60664-1 (VDE 0110-1, Para. 3.7.2). An overvoltage may occur as a result of switching activities, a defect or lightning surge, or may be intentionally created as a necessary function of the equipment or component.

Power-frequency withstand voltage

A power-frequency overvoltage (50/60 Hz).

Applied for a duration of one minute when testing dielectric strength. For test voltages in association with surge voltage withstand levels, see extract from Table 8, DIN EN 61984.

Test voltages (Extract from Table 8, DIN EN 61984)

Impulse withstand voltage kV (1.2/50 μ s) at an altitude of 2000 m	RMS withstand voltage kV (50/60 Hz)
0.5	0.37
0.8	0.50
1.5	0.84
2.5	1.39
4.0	2.21
6.0	3.31
8.0	4.26
12.0	6.60

CTI (Comparative Tracking Index)

This figure gives an indication of the conductivity of insulating materials and affects the specified creepage distances. The influence of the CTI value on the creepage distance is as follows: the higher the index value, the shorter the creepage distance. The CTI is used to divide plastics into insulation groups.

Breakdown of insulation groups:

- I 600 \leq CTI
- II 400 \leq CTI < 600
- IIIa 175 \leq CTI < 400
- IIIb 100 \leq CTI < 175

Protection levels as per IEC 60529

The protection level describes the leak-proof character of housing, e. g. for electrical equipment. It ranges from IP 00 to IP 68. HARTING heavy duty Han connectors feature a standard protection level of IP 65 (see page 00.09, Table based on DIN EN 60529, IEC 60529).

Derating diagram as per DIN EN 60512-5-2

These diagrams are used to illustrate the maximum current carrying capacity of components. The illustration follows a curve which shows the current in relation to ambient temperature. Current carrying capacity is limited by the thermal characteristics of contacts and insulating elements which have an upper temperature limit which should not be exceeded.

Current carrying capacity

The current carrying capacity is determined in tests which are conducted on the basis of the DIN EN 60512-5-2. The current carrying capacity is limited by the thermal properties of materials which are used for inserts as well as by the insulating materials. These components have a limiting temperature which should not be exceeded.

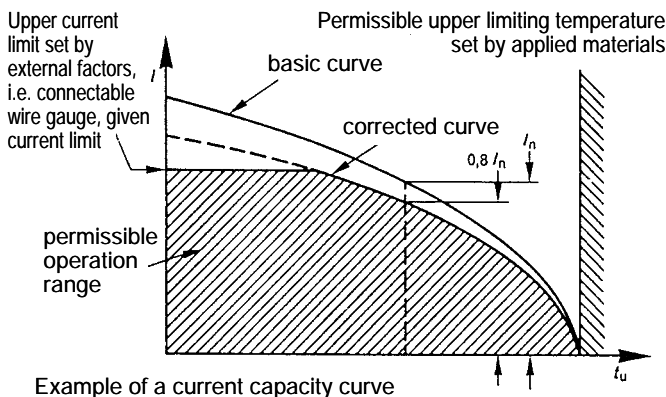
The relationship between the current, the temperature rise (loss at the contact resistance) and the ambient temperature of the connector is represented by a curve. On a linear coordinate system the current lies on the vertical line (ordinate) and the ambient temperature on the horizontal line (abscissa) which ends at the upper limiting temperature.

In another measurement the self-heating (Δt) at different currents is determined.

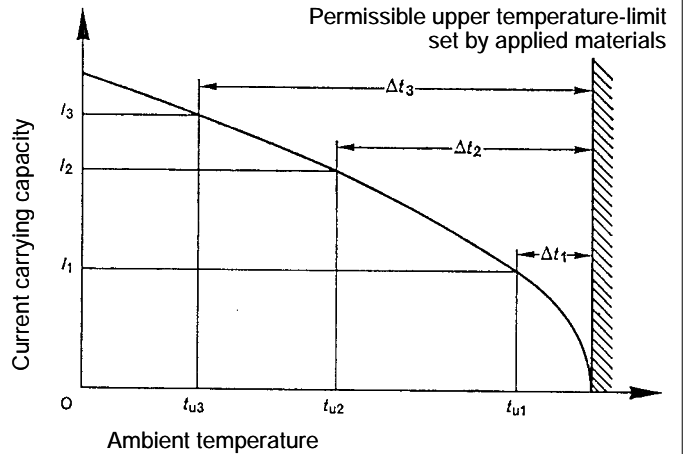
At least 3 points are determined which are connected to a parabolic curve, the basic curve.

The corrected current carrying capacity curve is derived from this basic curve. The reasons for the correction are external factors that bring an additional limitation to the current carrying capacity, i.e. connectable wire gauge or an unequal dispersion of current.

The derating diagrams pictured as curve have been primarily determined with tin-plated cables as well as with physical cross sections close to the respective ISO-cable cross section.



Definition: The rated current is the continuous, not interrupted current a connector can take when simultaneous power on all contacts is given, without exceeding the maximum temperature.



Acc. to DIN EN 61984 the sum of ambient temperature and the temperature rise of a connector shall not exceed the upper limiting temperature. The limiting temperature is valid for a complete connector, that means insert plus housing.

As a result the insert gives the limit for the temperature of a complete connector and thus housings as well.

In practice it is not usual to load all terminals simultaneously with the maximum current. In such a case one contact can be loaded with a higher current as permitted by the current capacity curve, if less than 20 % of the whole is loaded.

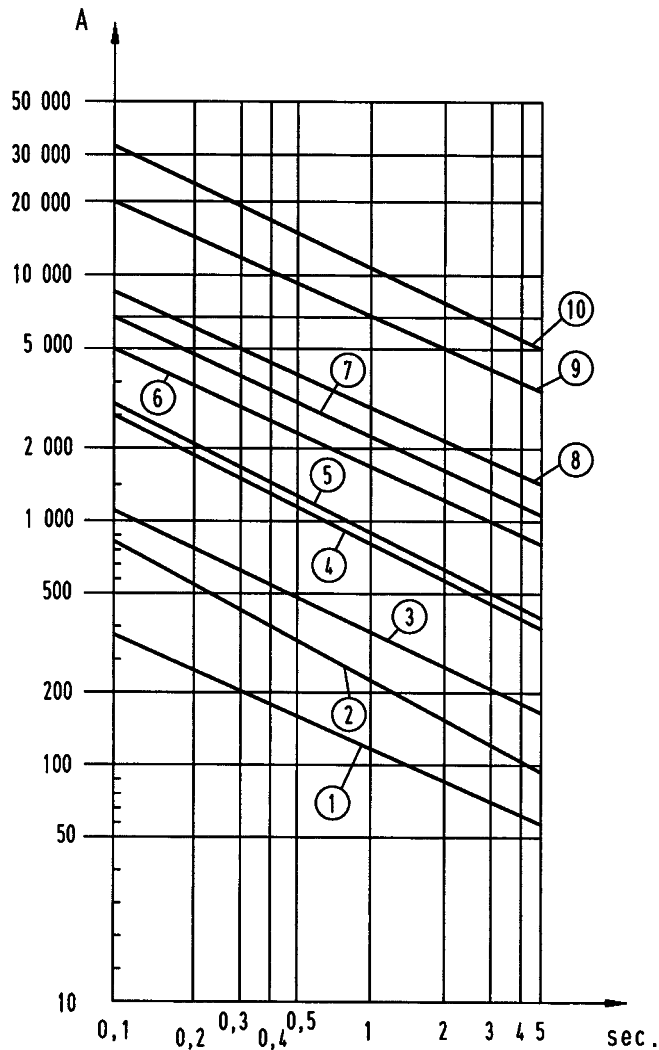
However, for these cases there are no universal rules. The limits have to be determined individually from case to case. It is recommended to proceed in accordance with the relevant rules of the DIN EN 60512-5-2.

Current carrying capacity of copper wires

Diameter [mm ²] of single wires in a three-phase system	0.75	1.0	1.5	2.5	4	6	10	16	25	35
Type of installation										
B1 Conductors/single core cables in conduit and cable trunking systems	8.6	10.3	13.5	18.3	24	31	44	59	77	96
B2 Cables in conduit and cable trunking systems	8.5	10.1	13.1	17.4	23	30	40	54	70	86
C Cables on walls	9.8	11.7	15.2	21.0	28	36	50	66	84	104
E Cables on open cable trays	10.4	12.4	16.1	22.0	30	37	52	70	88	110
Depiction in accordance with DIN EN 60204-1 for PVC-insulated copper wires in an ambient temperature of + 40 °C under permanent operating conditions.										
For different conditions and temperatures, installations, insulation materials or conductors the relevant corrections have to be carried out.										

Transient current carrying capacity

A transient current in circuits can be generated by switching operations such as the starting of a motor or a short circuit in a faulty installation. This can cause thermal stress at the contact. These short and very high increases cannot be dissipated quickly and therefore a local heating effect at the contact is the result. Contact design is an important feature when transient currents are encountered. HARTING contacts are machined from solid material and are therefore relatively unaffected by short overloads when compared to stamped and formed designs. For guidance please see the table below.



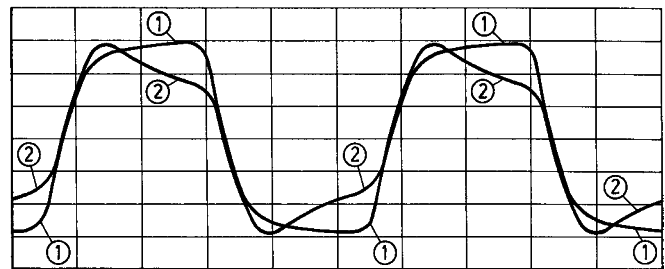
- | | |
|---------------------------------------|-----------------------|
| ① Han D® | $I_N = 10 \text{ A}$ |
| ② Han® 3 A / 4 A | $I_N = 10 \text{ A}$ |
| ③ Han A® / Han E®, Han® ES, EE, Q 5/0 | $I_N = 16 \text{ A}$ |
| ④ Han® 6 HsB | $I_N = 35 \text{ A}$ |
| ⑤ Han® C/K axial | $I_N = 40 \text{ A}$ |
| ⑥ Han® K 4/8, Han® 70 A Modul | $I_N = 80 \text{ A}$ |
| ⑦ Han® K 6/6 | $I_N = 100 \text{ A}$ |
| ⑧ Han® K 3/0 | $I_N = 200 \text{ A}$ |
| ⑨ Han® HC-Modular 350 | $I_N = 350 \text{ A}$ |
| ⑩ Han® HC-Modular 650 | $I_N = 650 \text{ A}$ |

Short circuit carrying capacity

Low currents and voltages

HARTING's standard contacts have a silver plated surface. This precious metal has excellent conductive properties. In the course of a contact's lifetime, the silver surface generates a black oxide layer due to its affinity to sulphur. This layer is smooth and very thin and is partly interrupted when the contacts are mated and unmated, thus guaranteeing very low contact resistances. In the case of very low currents or voltages small changes to the transmitted signal may be encountered. This is illustrated below where an artificially aged contact representing a twenty year life is compared with a new contact.

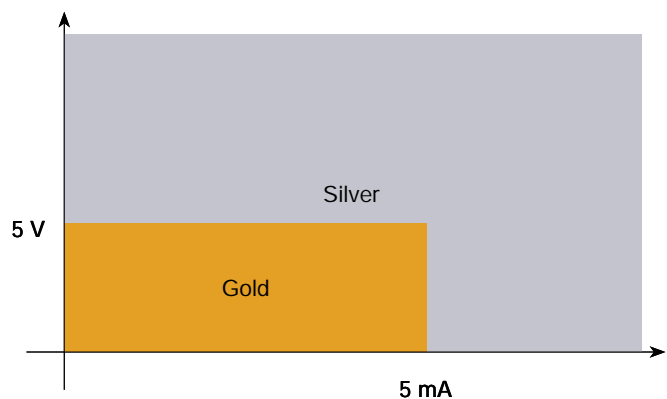
In systems where such a change to the transmitted signal could lead to faulty functions and also in extremely aggressive environments, HARTING recommend the use of gold plated contacts.



Changes to the transmitted signal after artificial ageing

- ① new contact
- ② after ageing

Below is a table derived from actual experiences.



Recommendation

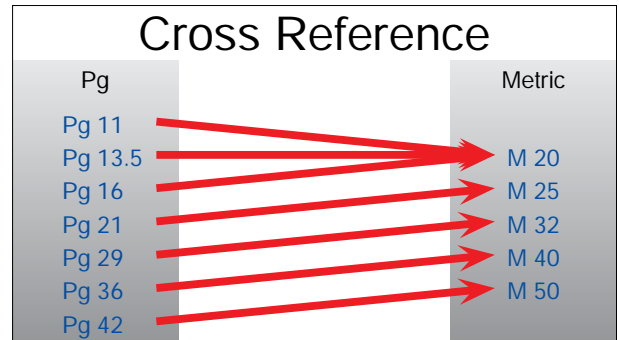
The reason for the new product offerings is the publication of the international DIN EN 50262 metric thread specification. The existing Pg series, Pg 7 to Pg 48 will be, in time, replaced by the metric series M 12 to M 63.

The adoption of metric threads considerably simplifies the understanding and specification of glands as the product type description contains the thread dimension. E.g. M 20 refers to 20 mm thread diameter.

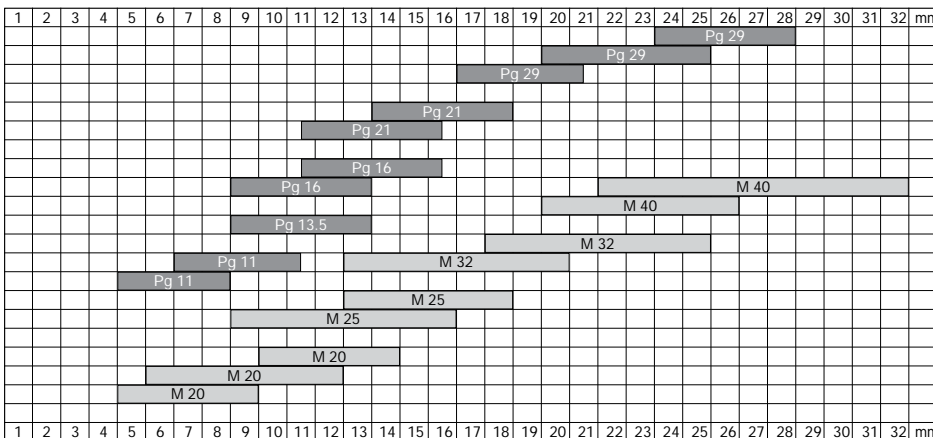
To differentiate the metric threaded hoods and housings from the previous Pg versions metric types will be marked with **(M)**.

The Cross Reference table shows the correlation between the Pg versions and the new metric types.

Please notice that the maximum cable diameter will be reduced by the new metric cable glands.

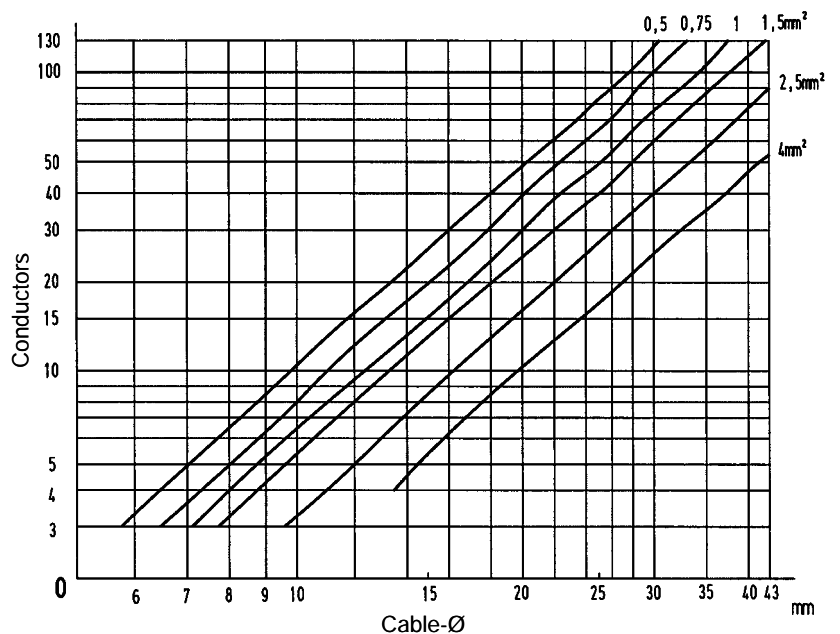


Below is shown the cable range of metric glands:



Cable

The diagram shows different cable-diameters, being dependent on wire gauges and number of conductors. All data are averages for commercial cables.



Han

This Declaration of Conformity is suitable to the European Standard EN ISO/IEC 17050-1:2010 "Conformity assessment – supplier's declaration of conformity – Part 1: General requirements (ISO/IEC 17050-1:2004; corrected version 2007-06-15); German and English version EN ISO/IEC 17050-1:2010."

We
HARTING Electric GmbH & Co. KG
Wilhelm-Harting-Str. 1
32339 Espelkamp

declare under our own responsibility that the product series of
Heavy Duty Han® Connectors
 is in conformity with the following standard(s) or other normative documents:
Connectors -
safety requirements and tests
IEC 61 984

This declaration of conformity refers to the Han®-series

Han A®	Han E®	Han® HsB
Han® B	Han E® AV	Han® K 3/0
Han-Brid®	Han® EE	Han® K 3/2
Han-Com®	Han® EEE	Han® M
Han D®	Han® ES	Han-Modular®
Han D® AV	Han® ESS	Han-Power®
Han DD®	Han® HC Modular 350	Han® Q
Han-Eco®	Han® HPR	Han-Yellock®

This declaration does not contain a warranty of characteristics. Safety references are to be considered.



Our testing laboratory is accredited and monitored by the German Accreditation Body Technology/ (DAkkS).
 Reg.-Nr. D-PL-12148-01-01



Our quality system is certified and monitored by DQS in conformity with the standard DIN EN ISO 9001:2008.
 Cert.-Nr. 2204-QM08

Espekamp, 23.11.2012
 Place and Date of publication


 Edgar Peter Düning
 Managing Director

Espekamp, 23.11.2012
 Place and Date of publication


 Andre Beneke
 Director Product & Industry Segment Management

Contents	Page
Han [®] 3 A / Han [®] 4 A.....	01.2
Han [®] 10 A / Han [®] 16 A / Han [®] 32 A.....	01.5
Contacts	01.11

Han A

Features

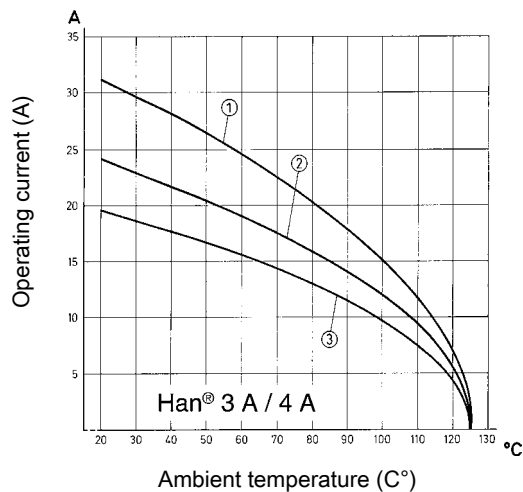
- Innovative Han-Quick Lock[®] termination technology with reduced wiring times
- No special tools required
- Insert suitable for all metal and plastic hoods and housings of the sizes Han[®] 3 A
- For currents up to 10 A

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 2.5 mm²
- ② Wire cross section 1.5 mm²
- ③ Wire cross section 1 mm²

Technical characteristics

Contacts	3, 4
Electrical data acc. to IEC 61984	10 A 230/400 V 4 kV 3
Rated current	10 A
Rated voltage conductor - ground	230 V
Rated voltage conductor - conductor	400 V
Rated impulse voltage	4 kV
Pollution degree	3
alternative electrical data	10 A 250 V 4 kV 3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Tightening torque	0.25 Nm
Flammability (seal) acc. to UL 94	V 0
Degree of protection acc. to IEC 60529	IP65 / IP67
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals

IEC 60664-1
IEC 61984



Number of contacts

3+

230/400 V
10 A

Han A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han-Quick Lock® Han A®, Han-Quick Lock® termination <p>Blue slide</p>	0.5 – 2.5	09 20 003 2633	09 20 003 2733	
Han-Quick Lock® Han A®, Han-Quick Lock® termination <p>Black slide</p>	0.25 – 1.5	09 20 003 2634	09 20 003 2734	
Han A®, Screw terminal 	0.75 – 1.5	09 20 003 2611	09 20 003 2711	<p>Contact arrangement (view from termination side)</p>

Number of contacts

4+

230/400 V
10 A

Han A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
<p> Han-Quick Lock® Han A®, Han-Quick Lock® termination</p> <p>Blue slide</p>	0.5–2.5	09 20 004 2633	09 20 004 2733	<p>Dimensions: 37,5, 32, 23,7, 23,7, 21, 21, 36,7, 31,2</p> <p>Contact arrangement (view from termination side)</p>
<p> Han-Quick Lock® Han A®, Han-Quick Lock® termination</p> <p>Black slide</p>	0.25–1.5	09 20 004 2634	09 20 004 2734	<p>Dimensions: 37,5, 32, 23,7, 23,7, 21, 21, 36,7, 31,2</p> <p>Contact arrangement (view from termination side)</p>
<p>Han A®, Screw terminal</p>	0.75–1.5	09 20 004 2611	09 20 004 2711	<p>Dimensions: 21, 27,7, 27, 21</p> <p>Contact arrangement (view from termination side)</p>

Features

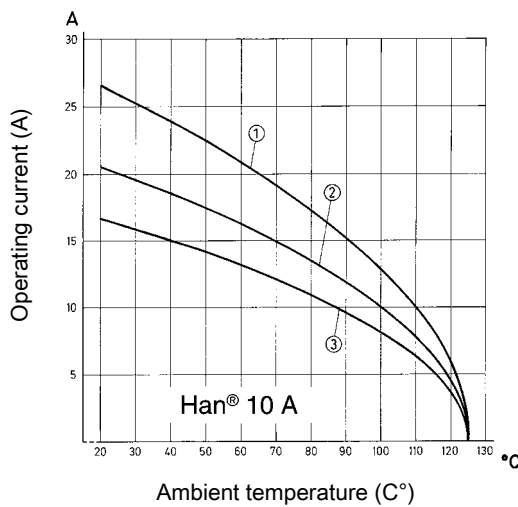
- Small size
- Available in crimp and screw termination
- Screw termination also available with wire protection

Derating

Current carrying capacity

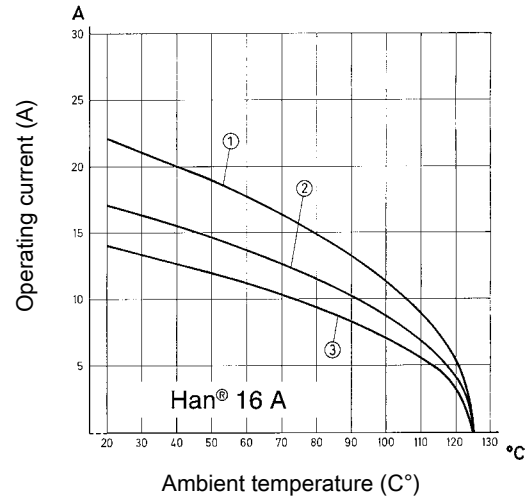
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 2.5 mm²
- ② Wire cross section 1.5 mm²
- ③ Wire cross section 1 mm²

Derating



- ① Wire cross section 2.5 mm²
- ② Wire cross section 1.5 mm²
- ③ Wire cross section 1 mm²

Technical characteristics

Contacts	10, 16, 32
Electrical data acc. to IEC 61984	16 A 250 V 4 kV 3
Rated current	16 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Tightening torque	0.5 Nm
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984


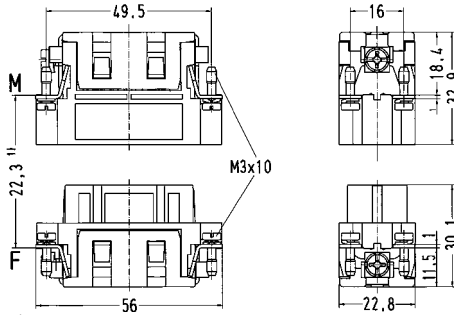

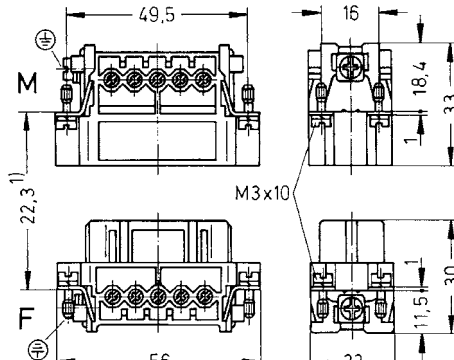

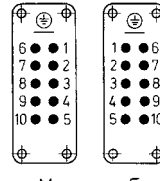
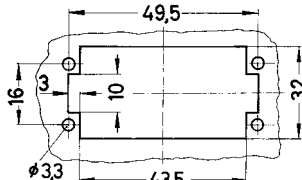


Number of contacts

10+

250 V
16 A

Han A


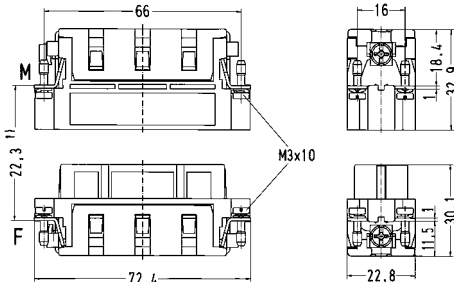

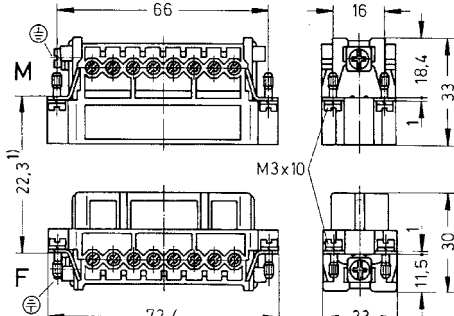

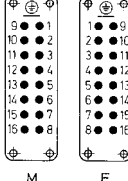
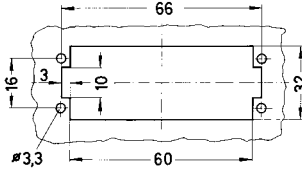
Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han A®, Crimp terminal  <p>Please order crimp contacts separately.</p>		09 20 010 3001	09 20 010 3101	 <p>1) Distance for contact max. 24 mm</p>
Han A®, Screw terminal 	0.75 – 2.5	09 20 010 2612	09 20 010 2812	 <p>1) Distance for contact max. 24 mm</p>
Han A®, Screw terminal, with wire protection 	0.75 – 2.5	09 20 010 2614	09 20 010 2814	 <p> Contact arrangement (view from termination side) </p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Number of contacts

16+

250 V
16 A

Han A


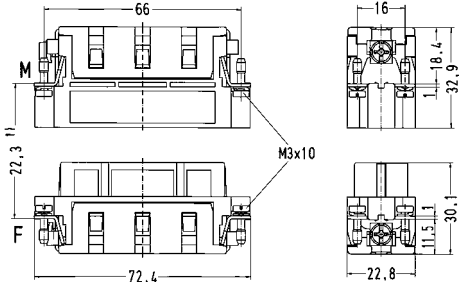
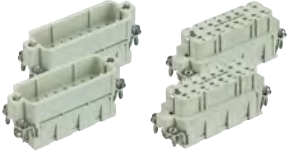
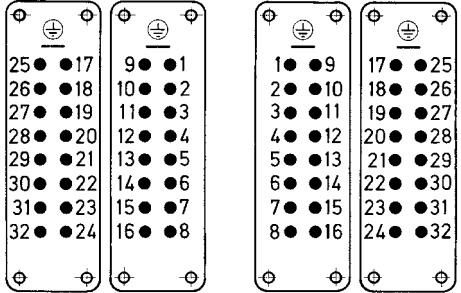
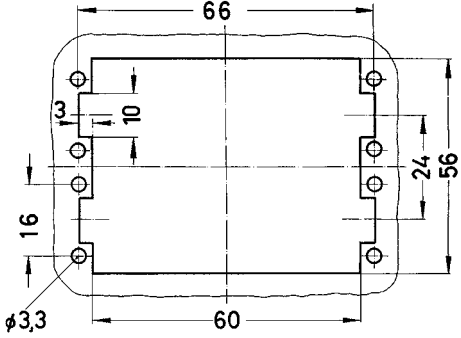
Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p>Han A® , Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 20 016 3001	09 20 016 3101	 <p>1) Distance for contact max. 24 mm</p>
<p>Han A® , Screw terminal</p> 	0.75–2.5	09 20 016 2612	09 20 016 2812	 <p>1) Distance for contact max. 24 mm</p>
<p>Han A® , Screw terminal, with wire protection</p> 	0.75–2.5	09 20 016 2614	09 20 016 2814	 <p>1) Distance for contact max. 24 mm</p> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Number of contacts

32+

250 V
16 A

Han A


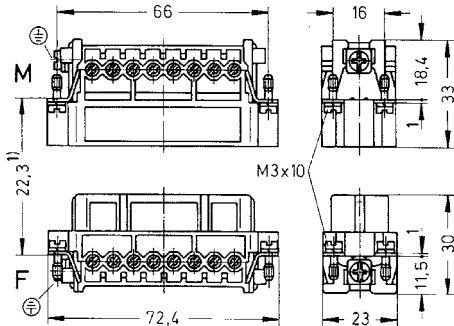

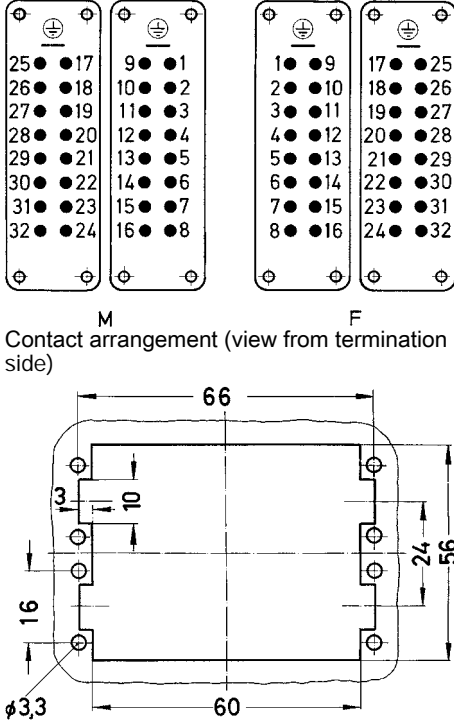
Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han A®, Crimp terminal, 1 - 16</p>  <p>Please order crimp contacts separately. Please order two inserts for a complete assembly!</p>	09 20 016 3001	09 20 016 3101	 <p>1) Distance for contact max. 24 mm</p>
<p>Han A®, Crimp terminal, 17 - 32</p>  <p>Please order crimp contacts separately. Please order two inserts for a complete assembly!</p>	09 20 016 3011	09 20 016 3111	 <p>M F</p> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Number of contacts

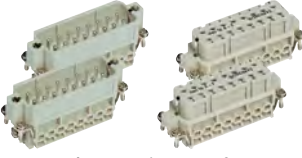
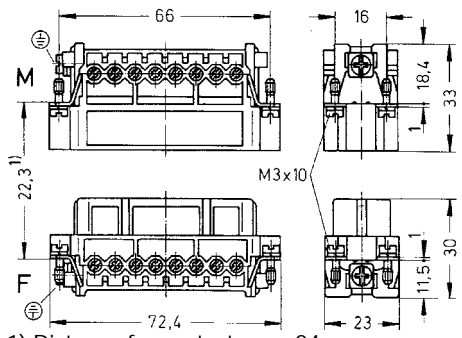
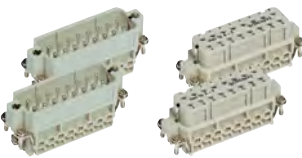
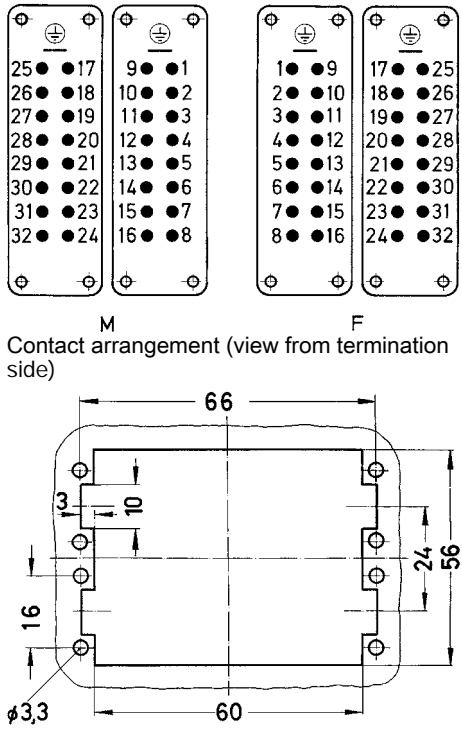
32+

250 V
16 A

Han A

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p>Han A® , Screw terminal, 1 - 16, contact resistance ≤1 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	0.75 – 2.5	09 20 016 2612	09 20 016 2812	 <p>1) Distance for contact max. 24 mm</p>
<p>Han A® , Screw terminal, 17 - 32, contact resistance ≤1 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	0.75 – 2.5	09 20 016 2613	09 20 016 2813	 <p>Contact arrangement (view from termination side)</p> <p>Panel cut out for inserts for use without hoods/housings</p>

Han A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
<p>Han A®, Screw terminal, 1 - 16, with wire protection, contact resistance ≤1 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	0.75 - 2.5	09 20 016 2614	09 20 016 2814	 <p>1) Distance for contact max. 24 mm</p>
<p>Han A®, Screw terminal, 17 - 32, with wire protection, contact resistance ≤1 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	0.75 - 2.5	09 20 016 2615	09 20 016 2815	 <p>Contact arrangement (view from termination side)</p>

Technical characteristics


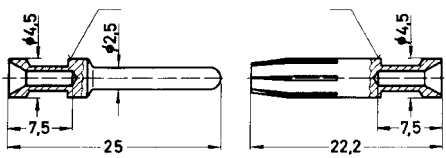
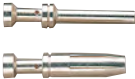
Material (contact) copper alloy

Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han E®, Crimp contact, gold plated contacts, contact resistance ≤1 mOhm 	0.14–0.37	09 33 000 6117	09 33 000 6217	
	0.5	09 33 000 6122	09 33 000 6222	
	0.75	09 33 000 6115	09 33 000 6215	
	1	09 33 000 6118	09 33 000 6218	
	1.5	09 33 000 6116	09 33 000 6216	
	2.5	09 33 000 6123	09 33 000 6223	
	4	09 33 000 6119	09 33 000 6221	
	Han E®, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm 	0.14–0.37	09 33 000 6127	
0.5		09 33 000 6121	09 33 000 6220	
0.75		09 33 000 6114	09 33 000 6214	
1		09 33 000 6105	09 33 000 6205	
1.5		09 33 000 6104	09 33 000 6204	
2.5		09 33 000 6102	09 33 000 6202	
3		09 33 000 6106	09 33 000 6206	
4		09 33 000 6107	09 33 000 6207	

Identification	Wire gauge	Stripping length
no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm
no groove	0.5 mm ² AWG 20	7.5 mm
1 groove*	0.75 mm ² AWG 18	7.5 mm
1 groove	1 mm ² AWG 18	7.5 mm
2 grooves	1.5 mm ² AWG 16	7.5 mm
3 grooves	2.5 mm ² AWG 14	7.5 mm
wide groove	3 mm ² AWG 12	7.5 mm
no groove	4 mm ² AWG 12	7.5 mm

* on the back crimp collar

Identification	Wire gauge	Stripping length
no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm
no groove	0.5 mm ² AWG 20	7.5 mm
1 groove*	0.75 mm ² AWG 18	7.5 mm
1 groove	1 mm ² AWG 18	7.5 mm
2 grooves	1.5 mm ² AWG 16	7.5 mm
3 grooves	2.5 mm ² AWG 14	7.5 mm
wide groove	3 mm ² AWG 12	7.5 mm
no groove	4 mm ² AWG 12	7.5 mm

* on the back crimp collar

Han A



01
: 12

Wind turbine by ENERCON with Han® 3 A – for a fast and reliable installation.

Contents	Page
Han [®] 7 D.....	02.2
Han [®] 8 D.....	02.4
Han [®] 15-128 D.....	02.6
Contacts Han D [®]	02.14
Han DD [®]	02.16
Contacts Han DD [®]	02.23

Han
D/DD

Features

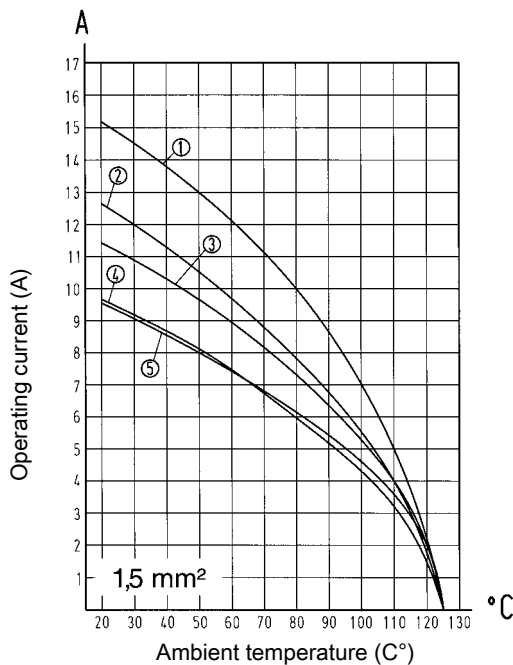
- Innovative Han-Quick Lock® termination technology with reduced wiring times
- Time saving rapid termination by use of crimping contacts
- For requirements up to 250 V / 10 A
- Gold and silver contacts available
- Suitable for thermo- and 1 mm F.O. contacts

Derating

Current carrying capacity

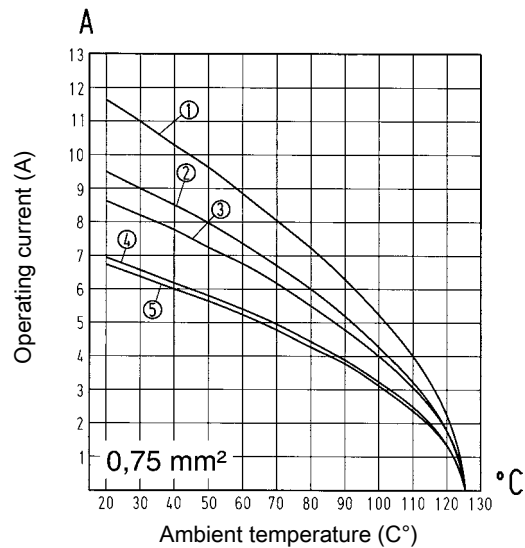
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han® 7 D
- ② Han® 15 D
- ③ Han® 25 D
- ④ Han® 40 D
- ⑤ Han® 64 D

Derating



- ① Han® 7 D
- ② Han® 15 D
- ③ Han® 25 D
- ④ Han® 40 D
- ⑤ Han® 64 D

Technical characteristics

Contacts	7
Electrical data acc. to IEC 61984	10 A 250 V 4 kV 3
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	HB
Mating cycles	≥500
Material (insert)	polyamide
Colour (insert)	RAL 7032 (light grey)
Material (seal)	NBR
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984
EN 175301-801


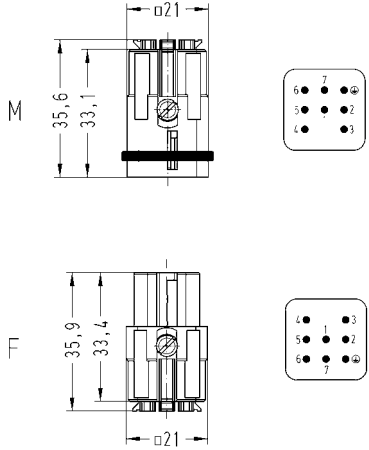

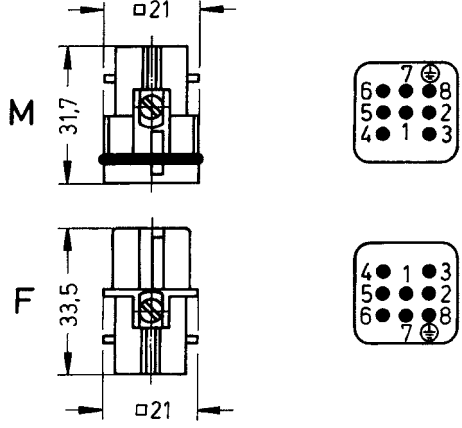


Number of contacts

7+

250 V
10 A

Han
D/DD

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p> Han-Quick Lock® Han D®, Han-Quick Lock® termination, silver plated contacts, contact resistance ≤3 mOhm</p>  <p>only for thermoplastic hoods/ housings</p>	0.25 – 1.5	09 21 007 2632	09 21 007 2732	 <p>Contact arrangement (view from termination side)</p>
<p>Han D®, Crimp terminal</p>  <p>Please order crimp contacts separately. only for thermoplastic hoods/ housings</p>		09 21 007 3031	09 21 007 3131	 <p>Contact arrangement (view from termination side)</p>

Features

- Innovative Han-Quick Lock® termination technology with reduced wiring times
- Time saving rapid termination by use of crimping contacts
- Gold and silver contacts available
- Insert suitable for metal hoods and housings size Han® 3 A
- High density of contacts

Han
D/DD

Technical characteristics

Contacts	8
Electrical data acc. to IEC 61984	10 A 50 V 0.8 kV 3
Rated current	10 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Rated voltage AC	50 V
Rated voltage DC	120 V
Rated voltage acc. to UL	50 V
Rated voltage acc. to CSA	50 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	HB
Mating cycles	≥500
Material (insert)	polyamide
Colour (insert)	RAL 7032 (light grey)
Material (seal)	NBR
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984
EN 175301-801



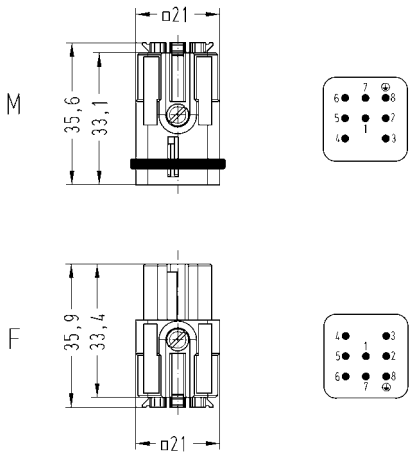

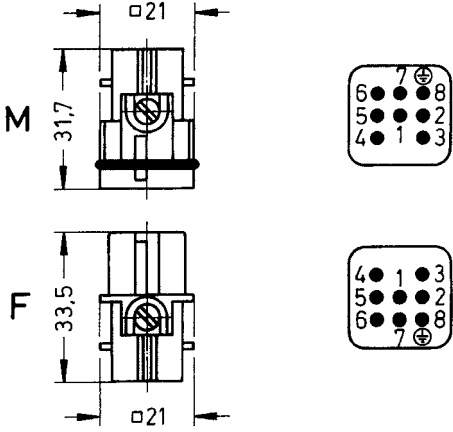


Number of contacts

8

~ 50 V
 - 120 V
 50 V
 10 A

Han
 D/DD

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p> Han-Quick Lock® Han D®, Han-Quick Lock® termination, silver plated contacts, contact resistance ≤3 mOhm</p>  <p>for thermoplastics and metal hoods/housings</p>	<p>0.25 – 1.5</p>	<p>09 36 008 2632</p>	<p>09 36 008 2732</p>	 <p>Technical drawing showing dimensions for M and F housings. Dimensions include 35.6, 33.1, 35.9, 33.4, and a diameter of 21 mm. Contact arrangement diagrams are provided for both M and F views.</p>
<p>Han D®, Crimp terminal</p>  <p>Please order crimp contacts separately. for thermoplastics and metal hoods/housings</p>		<p>09 36 008 3001</p>	<p>09 36 008 3101</p>	 <p>Technical drawing showing dimensions for M and F housings. Dimensions include 31.7, 33.5, and a diameter of 21 mm. Contact arrangement diagrams are provided for both M and F views.</p>

Features

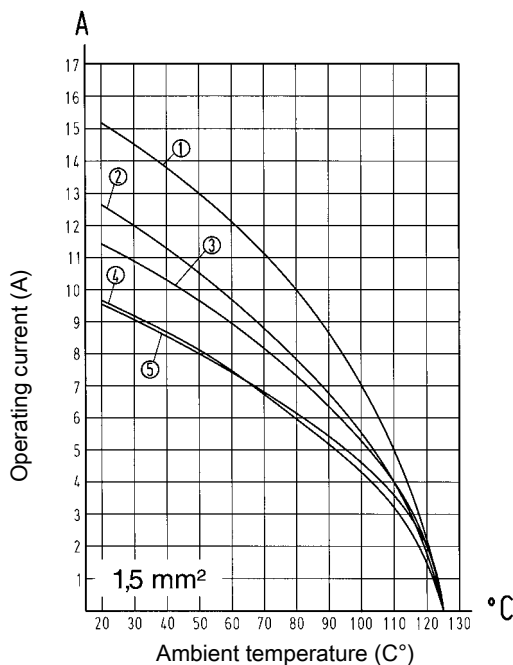
- High density of contacts
- For requirements up to 250 V / 10 A
- Time saving rapid termination by use of crimping contacts
- Gold and silver contacts available
- Suitable for thermo- and 1 mm F.O. contacts

Derating

Current carrying capacity

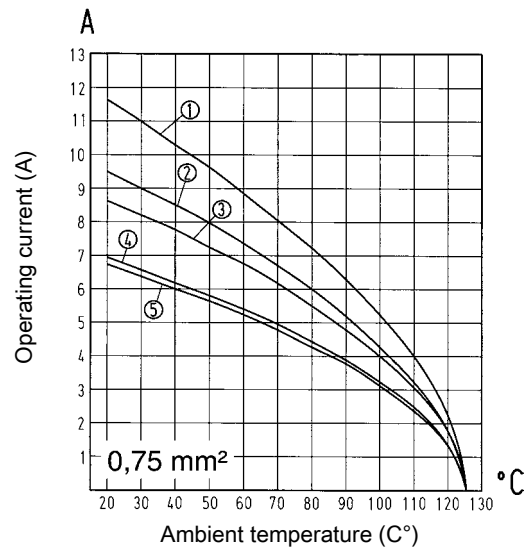
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han® 7 D
- ② Han® 15 D
- ③ Han® 25 D
- ④ Han® 40 D
- ⑤ Han® 64 D

Derating



- ① Han® 7 D
- ② Han® 15 D
- ③ Han® 25 D
- ④ Han® 40 D
- ⑤ Han® 64 D

Technical characteristics

Contacts	15, 25, 40, 50, 64, 80, 128
Electrical data acc. to IEC 61984	10 A 250 V 4 kV 3
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	$\geq 10^{10}$ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	HB, V 0
Mating cycles	≥ 500
Material (insert)	polyamide, polycarbonate
Colour (insert)	RAL 7032 (light grey)
Dimensions wire wrap post	1 x 1 mm, length 22 mm
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984
EN 175301-801



Details

Han® 40 and 64 D made of polycarbonate (flammability acc. to UL 94: V 0)


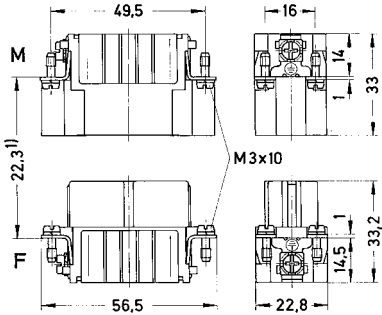
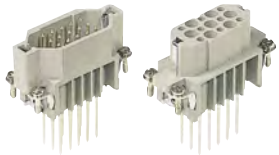
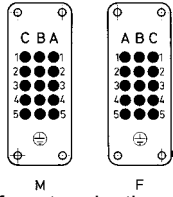
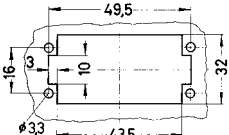
ATTENTION! Guide pins and bushes are prescribed (see chapter 80).

Number of contacts

15+

250 V
10 A

Han
D/DD


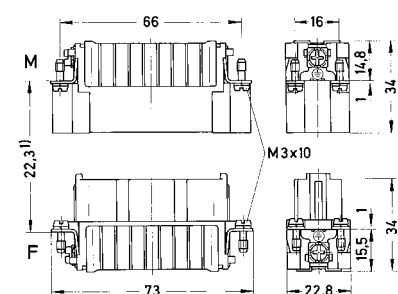
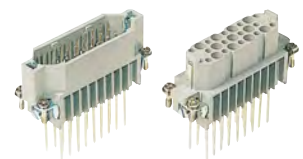
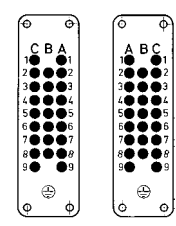
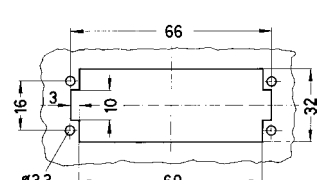
Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han D®, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>	09 21 015 3001	09 21 015 3101	 <p>¹⁾ Distance for contact max. 24 mm</p>
<p>Han D®, Wrap terminal, contact resistance ≤3 mOhm</p> 	09 21 015 2601	09 21 015 2701	 <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Number of contacts

25+

250 V
10 A

Han
D/DD


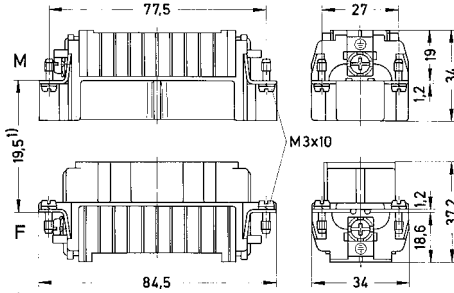
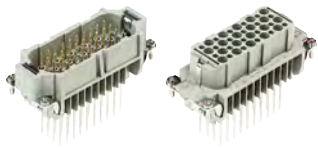
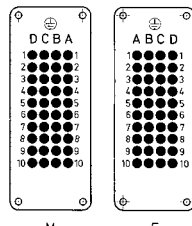
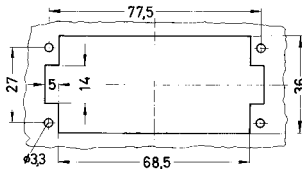
Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han D®, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>	09 21 025 3001	09 21 025 3101	 <p>¹⁾ Distance for contact max. 24 mm</p>
<p>Han D®, Wrap terminal, contact resistance ≤3 mOhm</p> 	09 21 025 2601	09 21 025 2701	 <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Number of contacts

40+

250 V
10 A

Han
D/DD


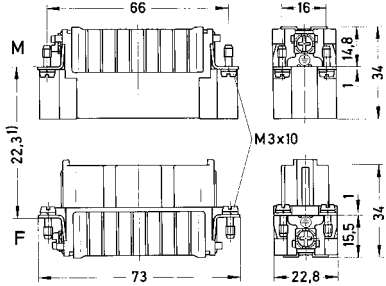
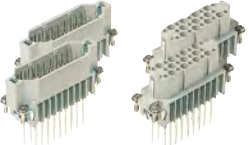
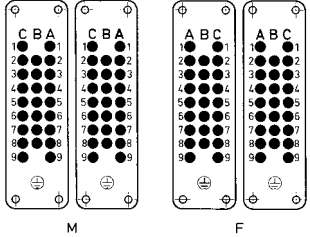
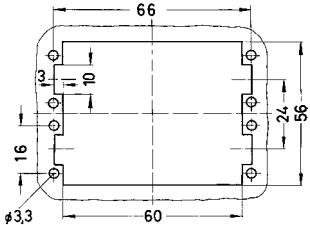
Identification	Part number male female		Drawing Dimensions in mm
<p>Han D®, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>	09 21 040 3001	09 21 040 3101	 <p>1) Distance for contact max. 21 mm</p>
<p>Han D®, Wrap terminal, contact resistance ≤3 mOhm</p> 	09 21 040 2601	09 21 040 2701	 <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Number of contacts

50+

250 V
10 A

Han
D/DD


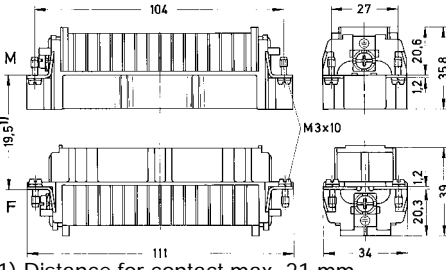
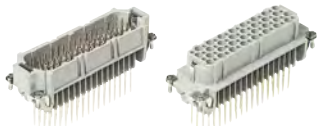
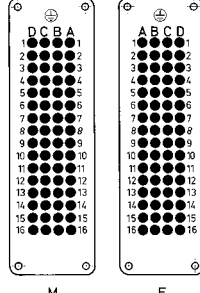
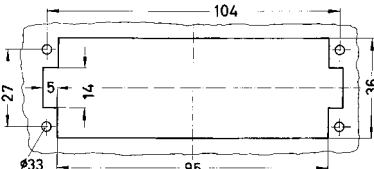
Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han D®, Crimp terminal</p>  <p>Please order crimp contacts separately. Please order two inserts for a complete assembly!</p>	09 21 025 3001	09 21 025 3101	 <p>¹⁾ Distance for contact max. 24 mm</p>
<p>Han D®, Wrap terminal, contact resistance ≤3 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	09 21 025 2601	09 21 025 2701	 <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Number of contacts

64+

250 V
10 A

Han
D/DD


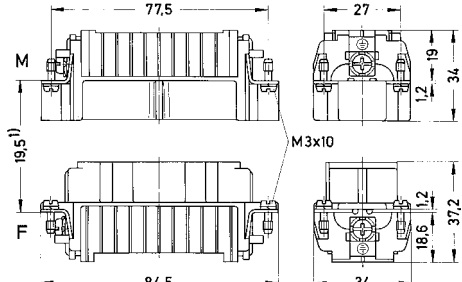

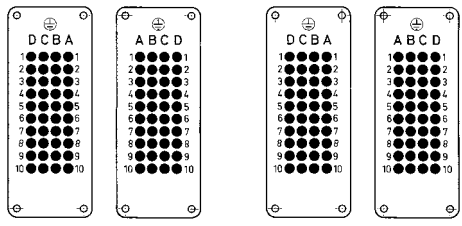
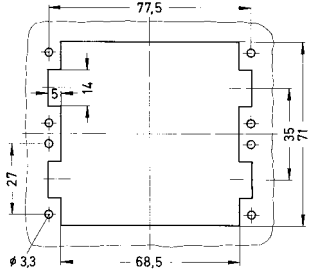
Identification	Part number male female		Drawing Dimensions in mm
<p>Han D®, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>	09 21 064 3001	09 21 064 3101	 <p>1) Distance for contact max. 21 mm</p>
<p>Han D®, Wrap terminal, contact resistance ≤3 mOhm</p> 	09 21 064 2601	09 21 064 2701	 <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Number of contacts

80+

250 V
10 A

Han
D/DD


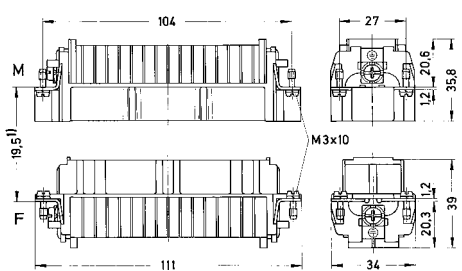

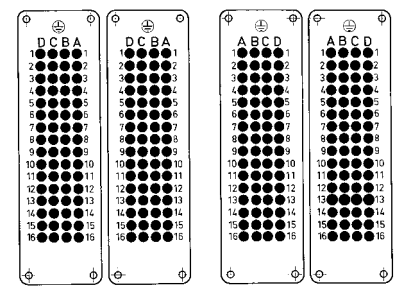
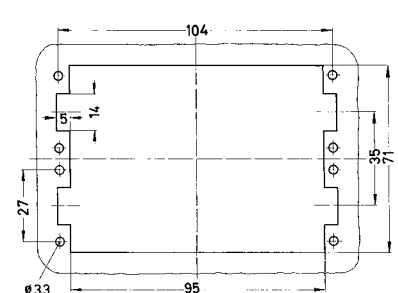
Identification	Part number male female		Drawing Dimensions in mm
<p>Han D®, Crimp terminal</p>  <p>Please order crimp contacts separately. Please order two inserts for a complete assembly!</p>	<p>09 21 040 3001</p>	<p>09 21 040 3101</p>	 <p>1) Distance for contact max. 21 mm</p>
<p>Han D®, Wrap terminal, contact resistance ≤3 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	<p>09 21 040 2601</p>	<p>09 21 040 2701</p>	 <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Number of contacts

128+

250 V
10 A

Han
D/DD

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han D®, Crimp terminal</p>  <p>Please order crimp contacts separately. Please order two inserts for a complete assembly!</p>	09 21 064 3001	09 21 064 3101	 <p>1) Distance for contact max. 21 mm</p>
<p>Han D®, Wrap terminal, contact resistance ≤3 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	09 21 064 2601	09 21 064 2701	 <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Han
D/DD

Technical characteristics

Material (contact) copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984

Details


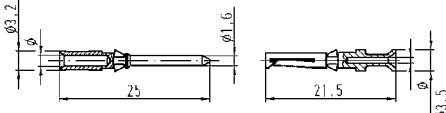

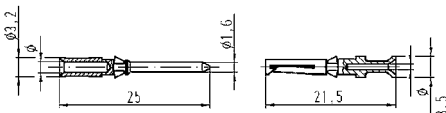

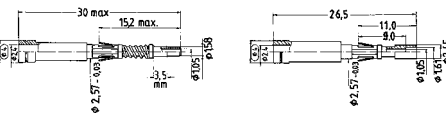
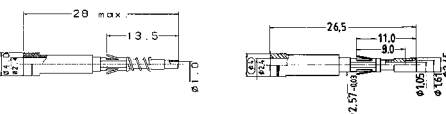
Crimping tools see chapter 90


Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Coding pin

Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert.

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																					
		male	female																						
Han D®, Crimp contact, gold plated contacts, contact resistance ≤3 mOhm 	0.14–0.37	09 15 000 6124	09 15 000 6224	 <table border="1" data-bbox="1013 1142 1460 1310"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
	Wire gauge	∅	Stripping length																						
	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																						
	0.5 mm ² AWG 20	1.1 mm	8 mm																						
	0.75 mm ² AWG 18	1.3 mm	8 mm																						
	1 mm ² AWG 18	1.45 mm	8 mm																						
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							
0.5	09 15 000 6123	09 15 000 6223																							
0.75	09 15 000 6125	09 15 000 6225																							
1	09 15 000 6122	09 15 000 6222																							
1.5	09 15 000 6121	09 15 000 6221																							
2.5	09 15 000 6126	09 15 000 6226																							
Han D®, Crimp contact, silver plated contacts, contact resistance ≤3 mOhm 	0.14–0.37	09 15 000 6104	09 15 000 6204	 <table border="1" data-bbox="1013 1500 1460 1668"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
	Wire gauge	∅	Stripping length																						
	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																						
	0.5 mm ² AWG 20	1.1 mm	8 mm																						
	0.75 mm ² AWG 18	1.3 mm	8 mm																						
	1 mm ² AWG 18	1.45 mm	8 mm																						
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							
0.5	09 15 000 6103	09 15 000 6203																							
0.75	09 15 000 6105	09 15 000 6205																							
1	09 15 000 6102	09 15 000 6202																							
1.5	09 15 000 6101	09 15 000 6201																							
2.5	09 15 000 6106	09 15 000 6206																							
F.O. contact  for 1 mm plastic fibre		20 10 001 3212	20 10 001 3222	 <p>20 10 001 3212 + 20 10 001 3222 for Han® 7 D, Han® 8 D, Han® 40 D, Han® 64 D, Han® 80 D, Han® 128 D</p>  <p>20 10 001 3213 + 20 10 001 3222 for Han® 15 D, Han® 25 D, Han® 50 D</p>																					
		20 10 001 3213																							

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm
		male	female	
Han D®, Han DD®, Coding pin, plastic  only for crimp termination with loss of one contact			09 33 000 9915	

Han
D/DD

Features

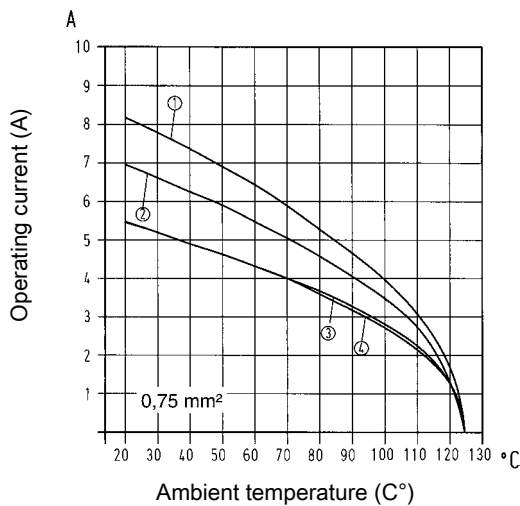
- High density of contacts
- For requirements up to 250 V / 10 A
- Time saving rapid termination by use of crimping contacts
- Gold and silver contacts available
- Suitable for thermo- and 1 mm F.O. contacts

Derating

Current carrying capacity

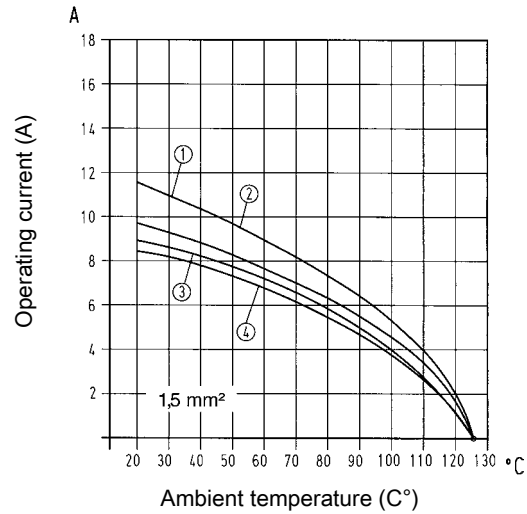
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han® 24 DD
- ② Han® 42 DD
- ③ Han® 72 DD
- ④ Han® 108 DD

Derating



- ① Han® 24 DD
- ② Han® 42 DD
- ③ Han® 72 DD
- ④ Han® 108 DD

Technical characteristics

Contacts	24, 42, 72, 108, 144, 216
Electrical data acc. to IEC 61984	10 A 250 V 4 kV 3
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Guide pins and bushes are recommended (see chapter 80).


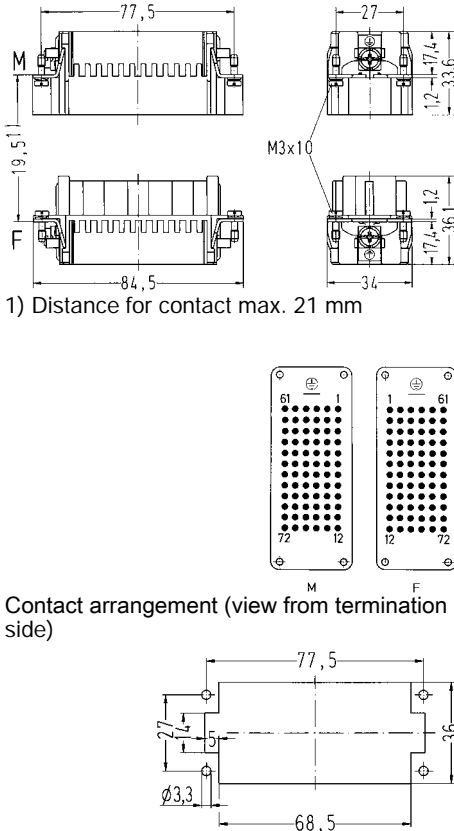
Han
D/DD

Number of contacts

72+

250 V
10 A

Han
D/DD


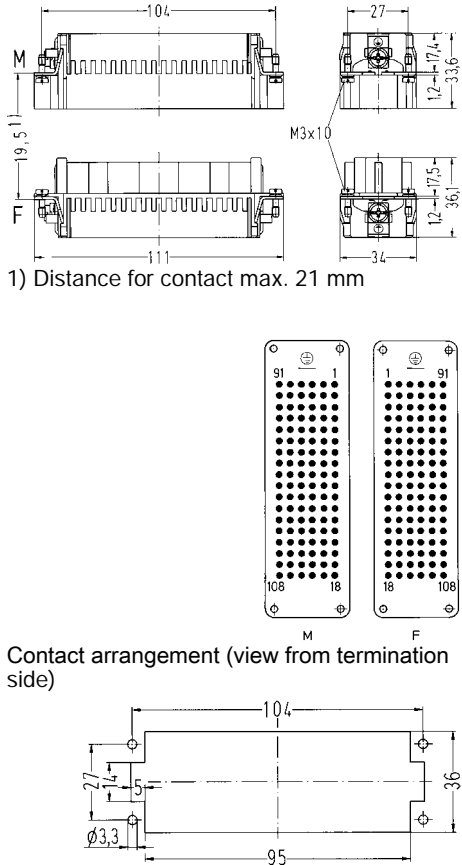
Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han DD®, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>	<p>09 16 072 3001</p>	<p>09 16 072 3101</p>	 <p>1) Distance for contact max. 21 mm</p> <p>Contact arrangement (view from termination side)</p> <p>Panel cut out for inserts for use without hoods/housings</p>

Number of contacts

108+

250 V
10 A

Han
D/DD


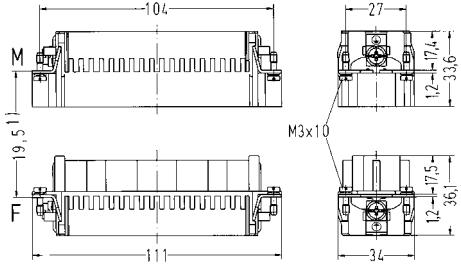

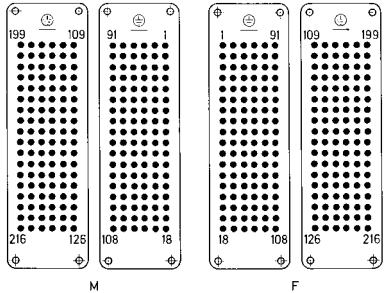
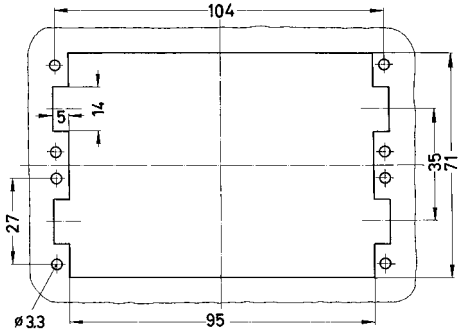
Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han DD®, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>	<p>09 16 108 3001</p>	<p>09 16 108 3101</p>	 <p>1) Distance for contact max. 21 mm</p> <p>Contact arrangement (view from termination side)</p> <p>Panel cut out for inserts for use without hoods/housings</p>

Number of contacts

216+

250 V
10 A

Han
D/DD

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han DD®, Crimp terminal, 1 - 108</p>  <p>Please order crimp contacts separately. Please order two inserts for a complete assembly!</p>	09 16 108 3001	09 16 108 3101	 <p>1) Distance for contact max. 21 mm</p>
<p>Han DD®, Crimp terminal, 109 - 216</p>  <p>Please order crimp contacts separately. Please order two inserts for a complete assembly!</p>	09 16 108 3011	09 16 108 3111	 <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Technical characteristics

Material (contact) copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984

Details


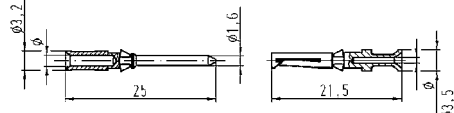

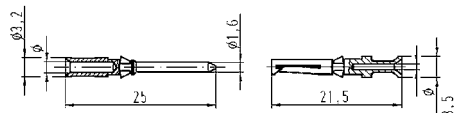

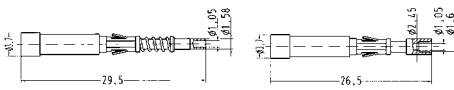

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Coding pin

Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert.

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																					
		male	female																						
Han D®, Crimp contact, gold plated contacts, contact resistance ≤3 mOhm 	0.14–0.37	09 15 000 6124	09 15 000 6224	 <table border="1" data-bbox="1037 1142 1492 1310"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
	Wire gauge	∅	Stripping length																						
	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																						
	0.5 mm ² AWG 20	1.1 mm	8 mm																						
	0.75 mm ² AWG 18	1.3 mm	8 mm																						
	1 mm ² AWG 18	1.45 mm	8 mm																						
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							
0.5	09 15 000 6123	09 15 000 6223																							
0.75	09 15 000 6125	09 15 000 6225																							
1	09 15 000 6122	09 15 000 6222																							
1.5	09 15 000 6121	09 15 000 6221																							
2.5	09 15 000 6126	09 15 000 6226																							
Han D®, Crimp contact, silver plated contacts, contact resistance ≤3 mOhm 	0.14–0.37	09 15 000 6104	09 15 000 6204	 <table border="1" data-bbox="1037 1500 1492 1668"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
	Wire gauge	∅	Stripping length																						
	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																						
	0.5 mm ² AWG 20	1.1 mm	8 mm																						
	0.75 mm ² AWG 18	1.3 mm	8 mm																						
	1 mm ² AWG 18	1.45 mm	8 mm																						
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							
0.5	09 15 000 6103	09 15 000 6203																							
0.75	09 15 000 6105	09 15 000 6205																							
1	09 15 000 6102	09 15 000 6202																							
1.5	09 15 000 6101	09 15 000 6201																							
2.5	09 15 000 6106	09 15 000 6206																							
F.O. contact for 1 mm plastic fibre 		20 10 001 3211	20 10 001 3221	 <p>20 10 001 3211 + 20 10 001 3221</p>																					
Han D®, Han DD®, Coding pin, plastic 			09 33 000 9915																						
	only for crimp termination with loss of one contact																								

Modified contact arrangement

The connector series Han DD® and Han D® equipped with all contacts may be used for voltages up to 250 V, pollution degree 3. A modified contact loading arrangement permits use up to 500 V also in the same pollution degree.

According to DIN EN 61 984 connectors should not be coupled or decoupled under electrical load.

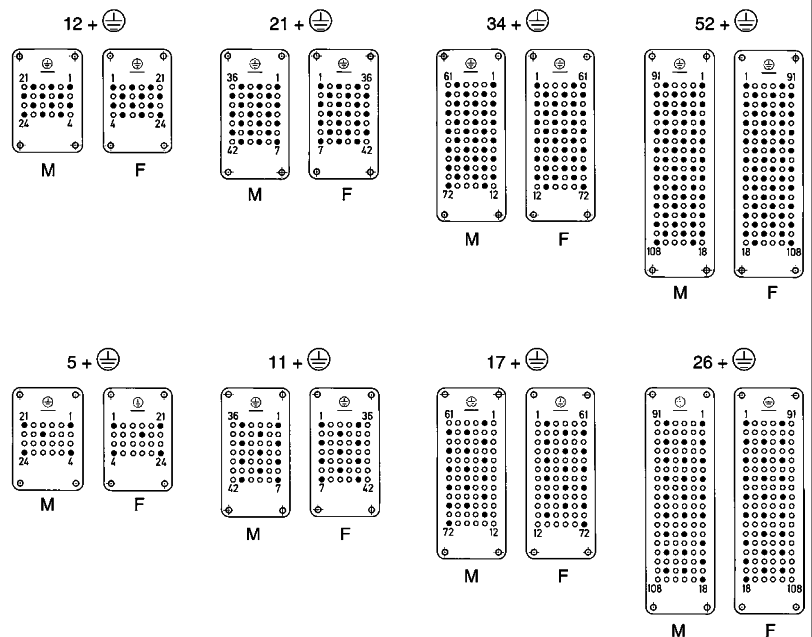
Han
D/DD

Series Han DD®

Rated current 10 A 400 V 6 kV 3
 Rated voltage 400 V
 Rated impulse voltage 6 kV
 Pollution degree 3

Rated current 10 A 500 V 6 kV 3
 Rated voltage 500 V
 Rated impulse voltage 6 kV
 Pollution degree 3

Contact arrangement view from termination side

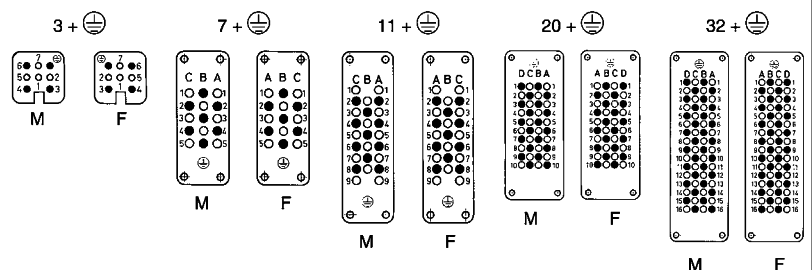


● Working contact ○ Without contact M - Male insert F - Female insert

Series Han D®

Rated current 10 A 500 V 6 kV 3
 Rated voltage 500 V
 Rated impulse voltage 6 kV
 Pollution degree 3

Contact arrangement view from termination side



● Working contact ○ Without contact M - Male insert F - Female insert

Contents	Page
Han E [®]	03.3
Han [®] ES/ESS	03.12
Han [®] EE.....	03.22
Han [®] EEE	03.29
Contacts	03.32

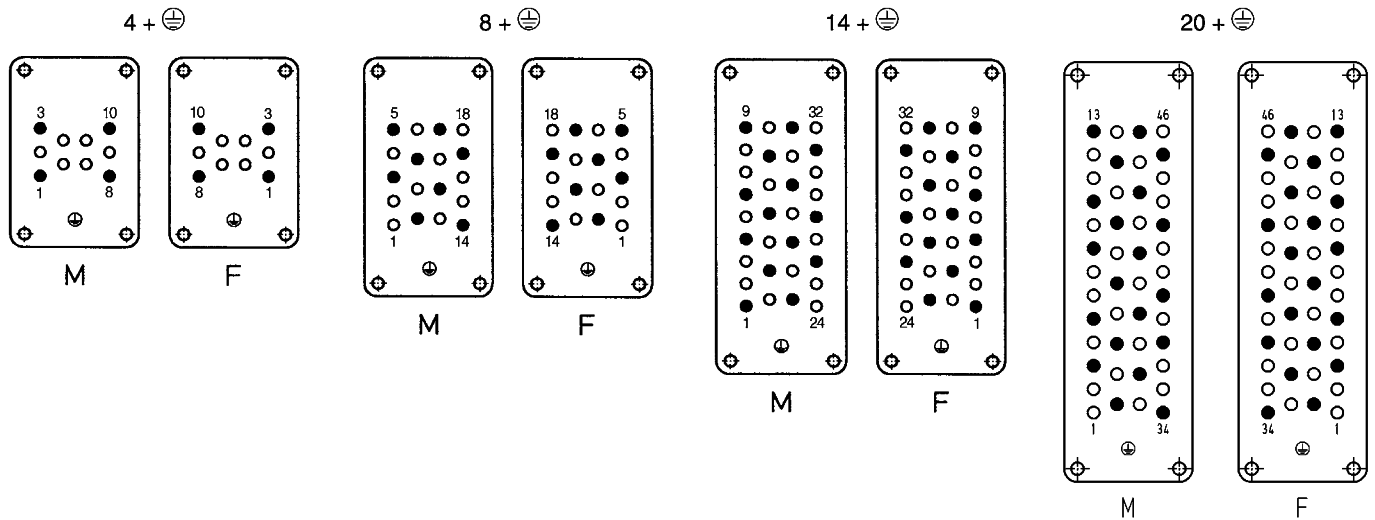
Han
E/EE

The connector series Han® EE equipped with all contacts may be used for voltages up to 500 V ~ pollution degree 3. A modified contact loading arrangement permits use up to 1000 V ~ pollution degree also in pollution degree 3. Fully equipped connectors may also be used up to 1000 V – but in a lower pollution degree. See chapter 00. According to IEC 61984 connectors should not be coupled or decoupled under electrical load.

Han
E/EE

690 V Pollution degree 3

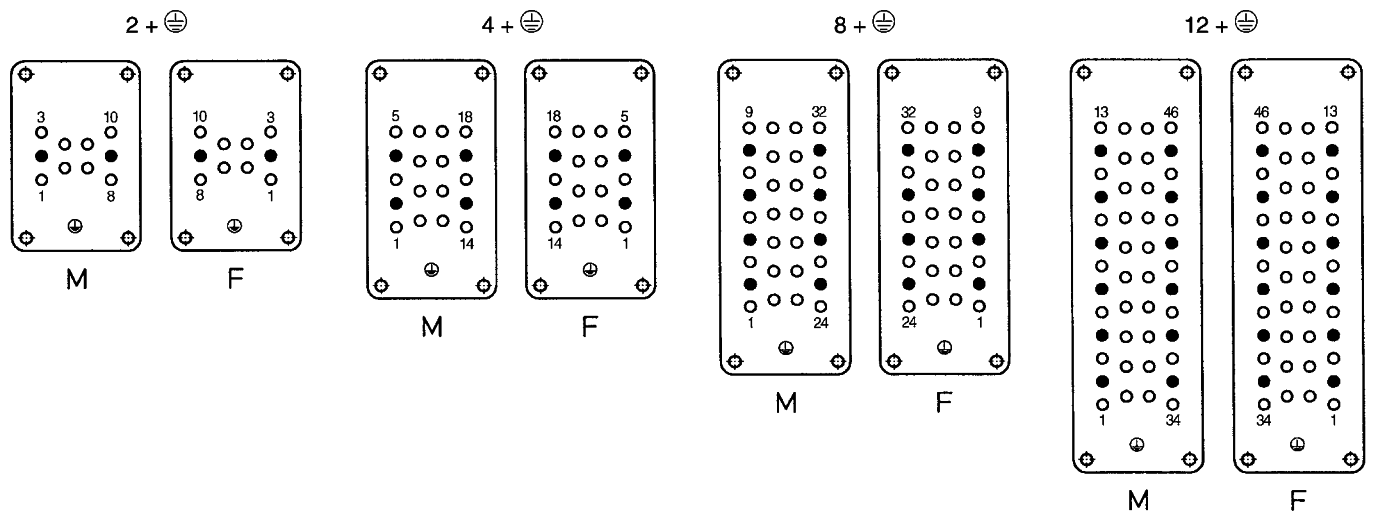
Contact arrangement view from termination side



• Working contact ○ Without contact M - Male insert F - Female insert

1000 V Pollution degree 3

Contact arrangement view from termination side



• Working contact ○ Without contact M - Male insert F - Female insert

Features

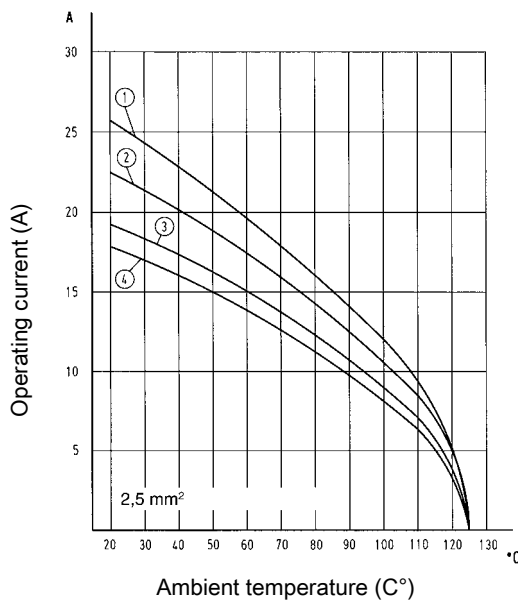
- Covers a wide range of cross core sections
- Screw termination with wire protection

Derating

Current carrying capacity

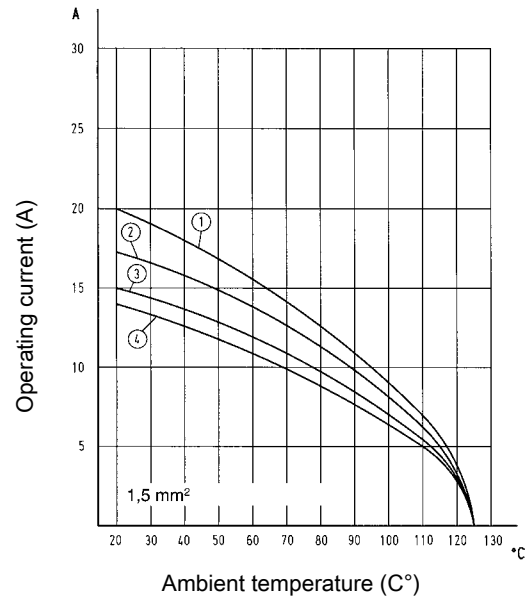
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han® 6 E
- ② Han® 10 E
- ③ Han® 16 E Han® 32 E
- ④ Han® 24 E Han® 48 E

Derating



- ① Han® 6 E
- ② Han® 10 E
- ③ Han® 16 E Han® 32 E
- ④ Han® 24 E Han® 48 E

Technical characteristics

Contacts	6, 10, 16, 24, 32, 48
Electrical data acc. to IEC 61984	16 A 500 V 6 kV 3
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Tightening torque	0.5 Nm
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Internal use in the switch cabinet in conjunction with Han-Snap® (see chapter 11)


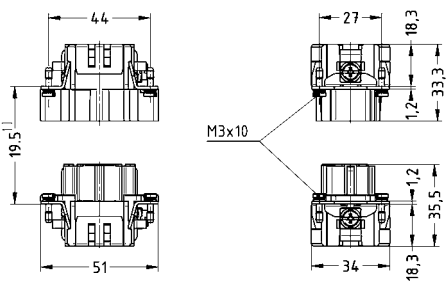

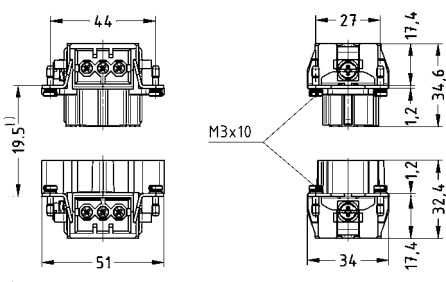
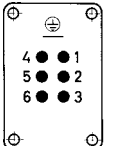
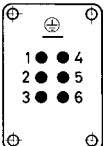
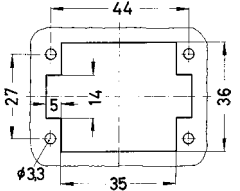
Suitable for hoods/housings of series Han® B, Han® M, Han® EMV, Han® HPR, Han® Easy Hood (see chapter 31)

Number of contacts

6+

500 V
16 A

Han
E/EE


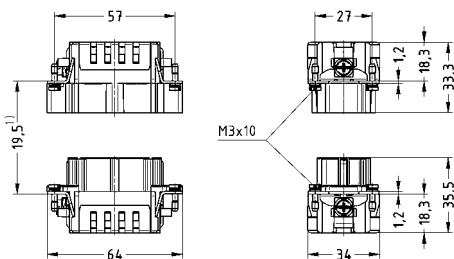

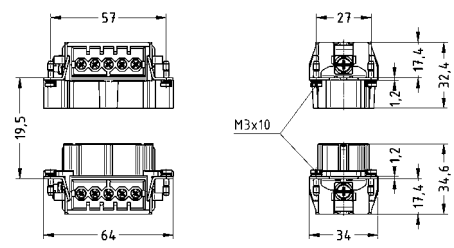
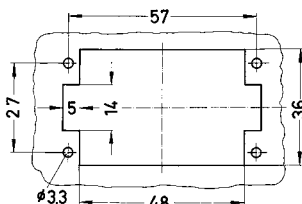
Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p>Han E®, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 33 006 2602	09 33 006 2702	 <p>1) Distance for contact max. 21 mm</p>
<p>Han E®, Screw terminal, with wire protection, contact resistance ≤1 mOhm</p> 	0.75 – 2.5	09 33 006 2601	09 33 006 2701	 <p>1) Distance for contact max. 21 mm</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>M</p> </div> <div style="text-align: center;">  <p>F</p> </div> </div> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>

Number of contacts

10+

500 V
16 A

Han
E/EE


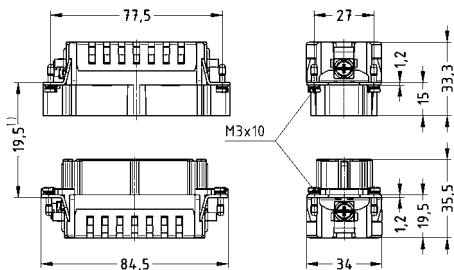
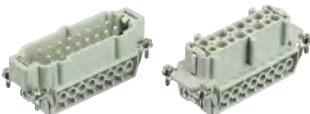
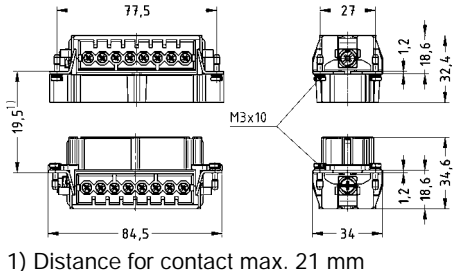
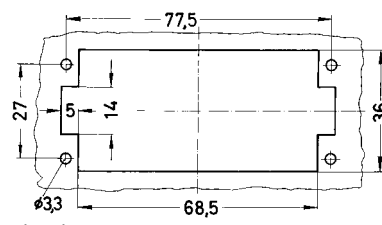
Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm																														
<p>Han E®, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 33 010 2602	09 33 010 2702	 <p>1) Distance for contact max. 21 mm</p>																														
<p>Han E®, Screw terminal, with wire protection, contact resistance ≤1 mOhm</p> 	0.75 – 2.5	09 33 010 2601	09 33 010 2701	 <p>1) Distance for contact max. 21 mm</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <table border="1" data-bbox="1268 1288 1380 1467"> <tr><td>6</td><td>●</td><td>1</td></tr> <tr><td>7</td><td>●</td><td>2</td></tr> <tr><td>8</td><td>●</td><td>3</td></tr> <tr><td>9</td><td>●</td><td>4</td></tr> <tr><td>10</td><td>●</td><td>5</td></tr> </table> <table border="1" data-bbox="1396 1288 1508 1467"> <tr><td>1</td><td>●</td><td>6</td></tr> <tr><td>2</td><td>●</td><td>7</td></tr> <tr><td>3</td><td>●</td><td>8</td></tr> <tr><td>4</td><td>●</td><td>9</td></tr> <tr><td>5</td><td>●</td><td>10</td></tr> </table> </div> <p style="text-align: center;">M F</p> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>	6	●	1	7	●	2	8	●	3	9	●	4	10	●	5	1	●	6	2	●	7	3	●	8	4	●	9	5	●	10
6	●	1																																
7	●	2																																
8	●	3																																
9	●	4																																
10	●	5																																
1	●	6																																
2	●	7																																
3	●	8																																
4	●	9																																
5	●	10																																

Number of contacts

16+

500 V
16 A

Han
E/EE

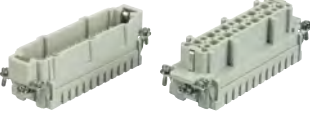
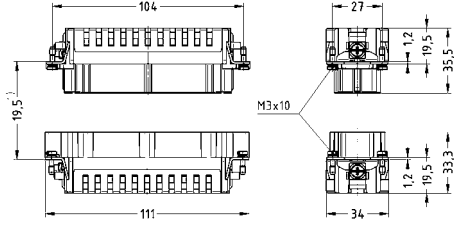

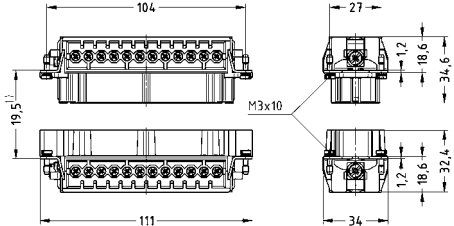
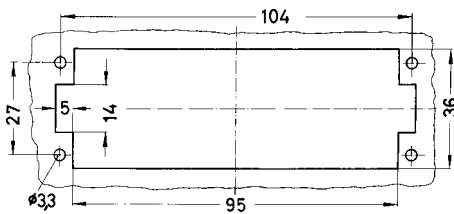
Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm																																																
<p>Han E®, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 33 016 2602	09 33 016 2702	 <p>1) Distance for contact max. 21 mm</p>																																																
<p>Han E®, Screw terminal, with wire protection, contact resistance ≤1 mOhm</p> 	0.75–2.5	09 33 016 2601	09 33 016 2701	 <p>1) Distance for contact max. 21 mm</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td>9</td><td>●</td><td>1</td></tr> <tr><td>10</td><td>●</td><td>2</td></tr> <tr><td>11</td><td>●</td><td>3</td></tr> <tr><td>12</td><td>●</td><td>4</td></tr> <tr><td>13</td><td>●</td><td>5</td></tr> <tr><td>14</td><td>●</td><td>6</td></tr> <tr><td>15</td><td>●</td><td>7</td></tr> <tr><td>16</td><td>●</td><td>8</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td>1</td><td>●</td><td>9</td></tr> <tr><td>2</td><td>●</td><td>10</td></tr> <tr><td>3</td><td>●</td><td>11</td></tr> <tr><td>4</td><td>●</td><td>12</td></tr> <tr><td>5</td><td>●</td><td>13</td></tr> <tr><td>6</td><td>●</td><td>14</td></tr> <tr><td>7</td><td>●</td><td>15</td></tr> <tr><td>8</td><td>●</td><td>16</td></tr> </table> </div> <p style="text-align: center;">M F</p> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>	9	●	1	10	●	2	11	●	3	12	●	4	13	●	5	14	●	6	15	●	7	16	●	8	1	●	9	2	●	10	3	●	11	4	●	12	5	●	13	6	●	14	7	●	15	8	●	16
9	●	1																																																		
10	●	2																																																		
11	●	3																																																		
12	●	4																																																		
13	●	5																																																		
14	●	6																																																		
15	●	7																																																		
16	●	8																																																		
1	●	9																																																		
2	●	10																																																		
3	●	11																																																		
4	●	12																																																		
5	●	13																																																		
6	●	14																																																		
7	●	15																																																		
8	●	16																																																		

Number of contacts

24+

500 V
16 A

Han
E/EE

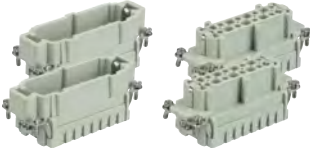
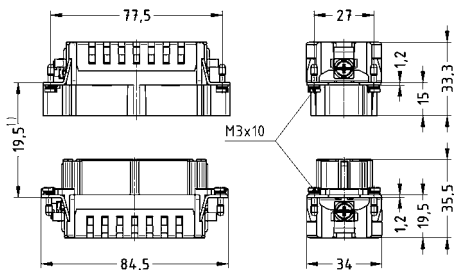

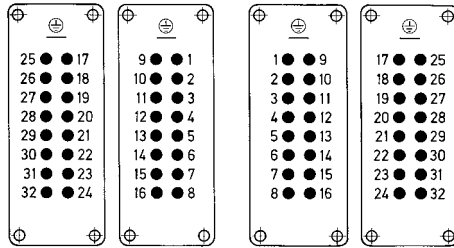
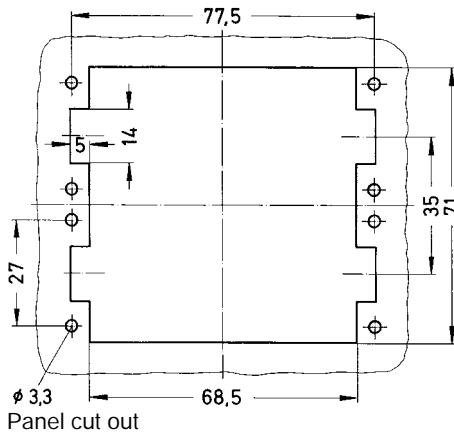
Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm																																																																								
<p>Han E®, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 33 024 2602	09 33 024 2702	 <p>1) Distance for contact max. 21 mm</p>																																																																								
<p>Han E®, Screw terminal, with wire protection, contact resistance ≤1 mOhm</p> 	0.75 – 2.5	09 33 024 2601	09 33 024 2701	 <p>1) Distance for contact max. 21 mm</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <table border="1" data-bbox="1292 1254 1388 1534"> <tr><td>13</td><td>●</td><td>1</td></tr><tr><td>14</td><td>●</td><td>2</td></tr><tr><td>15</td><td>●</td><td>3</td></tr><tr><td>16</td><td>●</td><td>4</td></tr><tr><td>17</td><td>●</td><td>5</td></tr><tr><td>18</td><td>●</td><td>6</td></tr><tr><td>19</td><td>●</td><td>7</td></tr><tr><td>20</td><td>●</td><td>8</td></tr><tr><td>21</td><td>●</td><td>9</td></tr><tr><td>22</td><td>●</td><td>10</td></tr><tr><td>23</td><td>●</td><td>11</td></tr><tr><td>24</td><td>●</td><td>12</td></tr> </table> <table border="1" data-bbox="1404 1254 1500 1534"> <tr><td>1</td><td>●</td><td>13</td></tr><tr><td>2</td><td>●</td><td>14</td></tr><tr><td>3</td><td>●</td><td>15</td></tr><tr><td>4</td><td>●</td><td>16</td></tr><tr><td>5</td><td>●</td><td>17</td></tr><tr><td>6</td><td>●</td><td>18</td></tr><tr><td>7</td><td>●</td><td>19</td></tr><tr><td>8</td><td>●</td><td>20</td></tr><tr><td>9</td><td>●</td><td>21</td></tr><tr><td>10</td><td>●</td><td>22</td></tr><tr><td>11</td><td>●</td><td>23</td></tr><tr><td>12</td><td>●</td><td>24</td></tr> </table> </div> <p style="text-align: center;">M F</p> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>	13	●	1	14	●	2	15	●	3	16	●	4	17	●	5	18	●	6	19	●	7	20	●	8	21	●	9	22	●	10	23	●	11	24	●	12	1	●	13	2	●	14	3	●	15	4	●	16	5	●	17	6	●	18	7	●	19	8	●	20	9	●	21	10	●	22	11	●	23	12	●	24
13	●	1																																																																										
14	●	2																																																																										
15	●	3																																																																										
16	●	4																																																																										
17	●	5																																																																										
18	●	6																																																																										
19	●	7																																																																										
20	●	8																																																																										
21	●	9																																																																										
22	●	10																																																																										
23	●	11																																																																										
24	●	12																																																																										
1	●	13																																																																										
2	●	14																																																																										
3	●	15																																																																										
4	●	16																																																																										
5	●	17																																																																										
6	●	18																																																																										
7	●	19																																																																										
8	●	20																																																																										
9	●	21																																																																										
10	●	22																																																																										
11	●	23																																																																										
12	●	24																																																																										

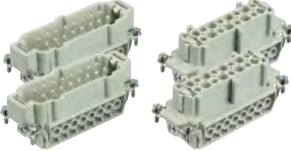
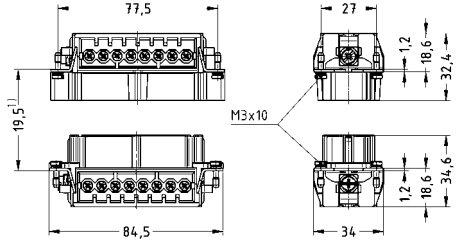
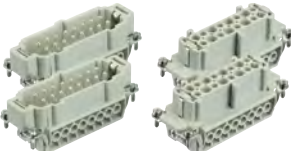
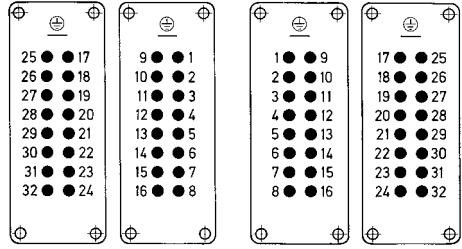
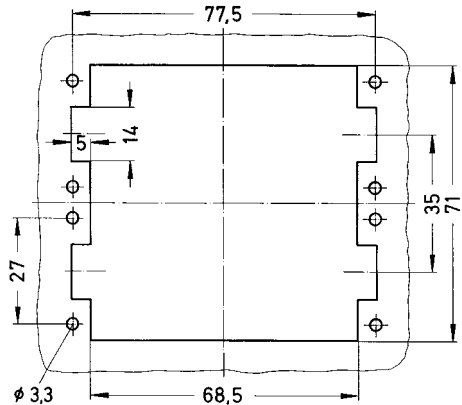
Number of contacts

32+

500 V
16 A

Han
E/EE

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm
		male	female	
<p>Han E®, Crimp terminal, 1 - 16</p>  <p>Please order crimp contacts separately. Please order two inserts for a complete assembly!</p>		09 33 016 2602	09 33 016 2702	 <p>1) Distance for contact max. 21 mm</p>
<p>Han E®, Crimp terminal, 17 - 32</p>  <p>Please order crimp contacts separately. Please order two inserts for a complete assembly!</p>		09 33 016 2612	09 33 016 2712	 <p>M F</p> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
<p>Han E®, Screw terminal, 1 - 16, with wire protection, contact resistance ≤1 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	0.75 - 2.5	09 33 016 2601	09 33 016 2701	 <p>1) Distance for contact max. 21 mm</p>
<p>Han E®, Screw terminal, 17 - 32, with wire protection, contact resistance ≤1 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	0.75 - 2.5	09 33 016 2611	09 33 016 2711	 <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>

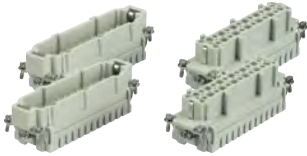
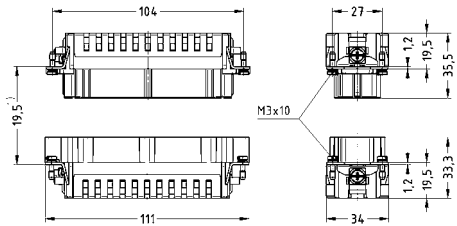
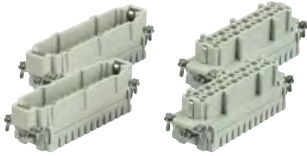
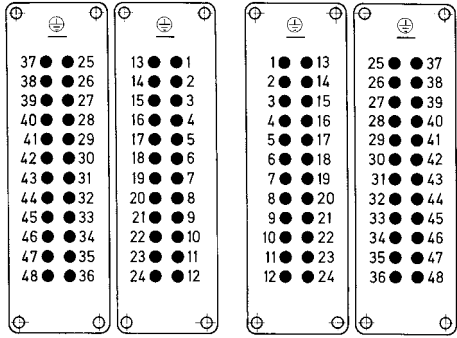
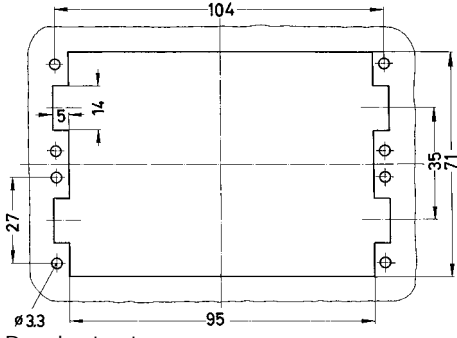
Han E/EE

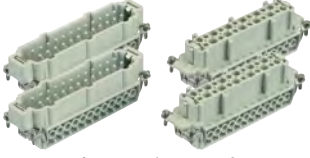
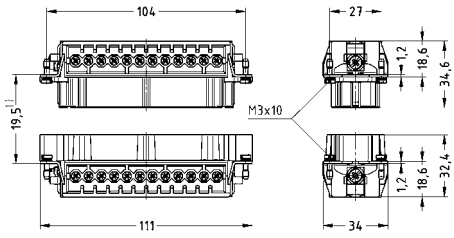
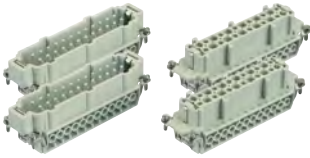
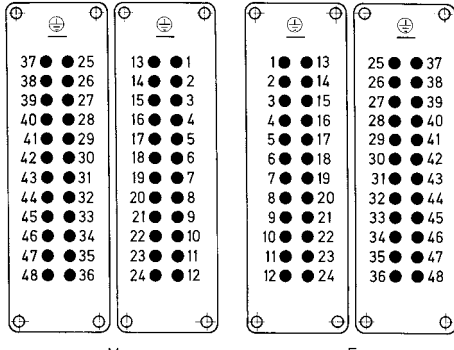
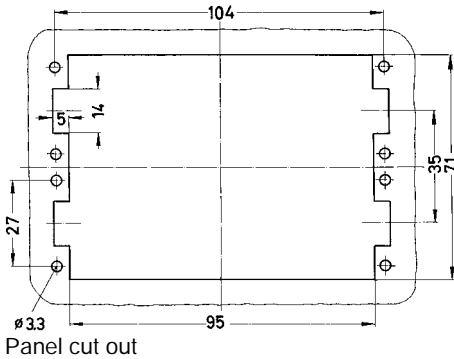
Number of contacts

48+

500 V
16 A

Han E/EE

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm
		male	female	
<p>Han E®, Crimp terminal, 1 - 24</p>  <p>Please order crimp contacts separately. Please order two inserts for a complete assembly!</p>		09 33 024 2602	09 33 024 2702	 <p>1) Distance for contact max. 21 mm</p>
<p>Han E®, Crimp terminal, 25 - 48</p>  <p>Please order crimp contacts separately. Please order two inserts for a complete assembly!</p>		09 33 024 2612	09 33 024 2712	 <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
<p>Han E®, Screw terminal, 1 - 24, with wire protection, contact resistance ≤1 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	0.75 – 2.5	09 33 024 2601	09 33 024 2701	 <p>1) Distance for contact max. 21 mm</p>
<p>Han E®, Screw terminal, 25 - 48, with wire protection, contact resistance ≤1 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	0.75 – 2.5	09 33 024 2611	09 33 024 2711	 <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>

Han E/EE

Features

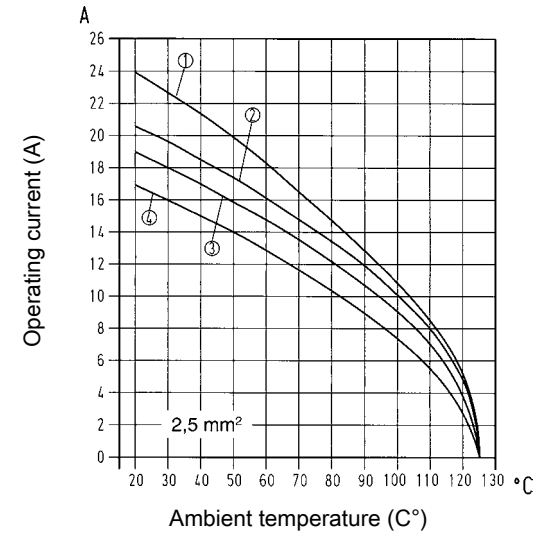
- Reliable cage clamp termination
- Han® ESS: two termination points per contact
- Vibration proofed
- No special tools required

Derating

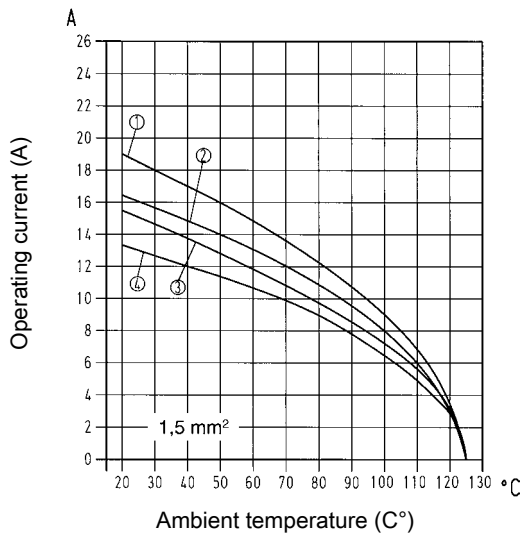
Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2

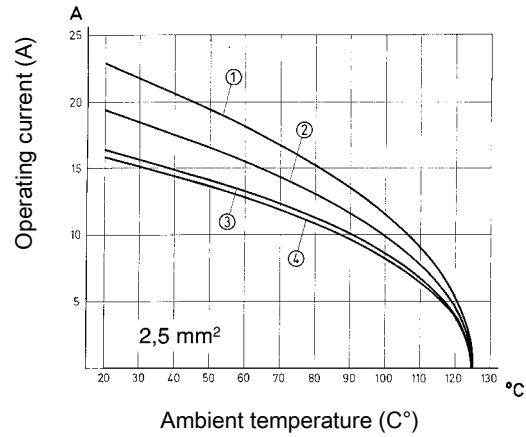


- ① Han® 6 ES
- ② Han® 10 ES
- ③ Han® 16 ES Han® 32 ES
- ④ Han® 24 ES Han® 48 ES

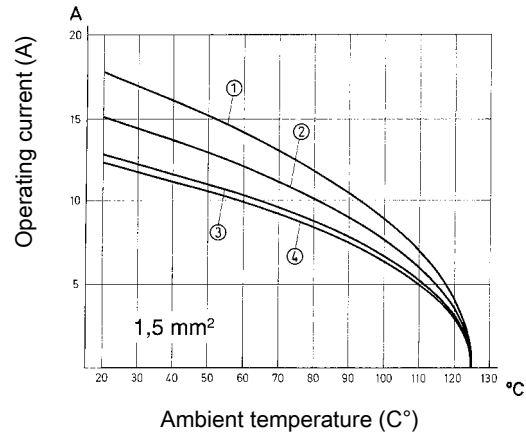


- ① Han® 6 ES
- ② Han® 10 ES
- ③ Han® 16 ES Han® 32 ES
- ④ Han® 24 ES Han® 48 ES

Derating



- ① Han® 6 ESS
- ② Han® 10 ESS
- ③ Han® 16 ESS Han® 32 ESS
- ④ Han® 24 ESS Han® 48 ESS



- ① Han® 6 ESS
- ② Han® 10 ESS
- ③ Han® 16 ESS Han® 32 ESS
- ④ Han® 24 ESS Han® 48 ESS

Technical characteristics

Contacts	6, 10, 16, 24, 32, 48
Electrical data acc. to IEC 61984	16 A 500 V 6 kV 3
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Internal use in the switch cabinet in conjunction with Han-Snap®
(see chapter 11)

Suitable for hoods/housings of series Han® B, Han® M, Han®
EMV, Han® HPR, Han® Easy Hood (see chapter 31)


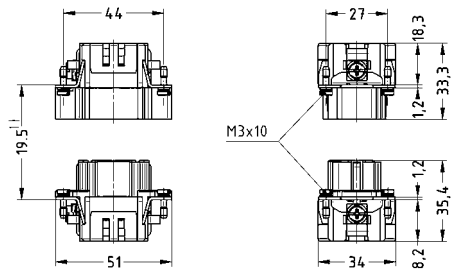

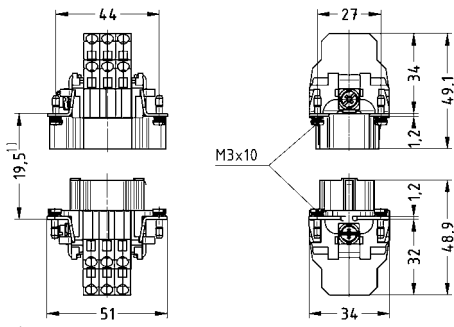
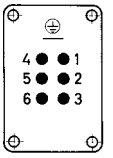
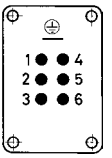
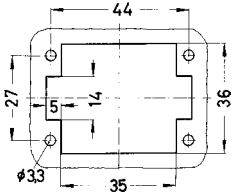
Han
E/EE

Number of contacts

6+

500 V
16 A

Han
E/EE


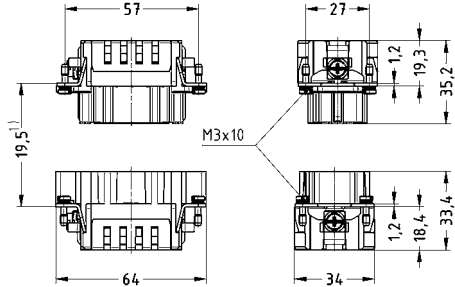

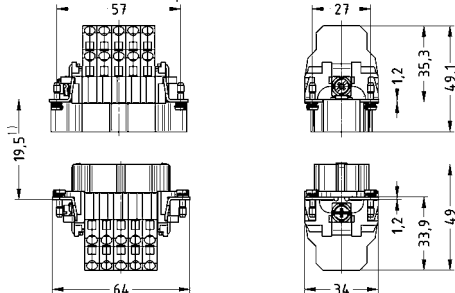
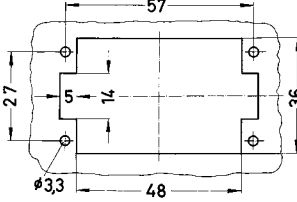
Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han® ES, Cage-clamp terminal, silver plated contacts, contact resistance ≤3 mOhm 	0.14 – 2.5	09 33 006 2616	09 33 006 2716	 <p>1) Distance for contact max. 21 mm</p>
Han® ESS, Cage-clamp terminal, silver plated contacts, contact resistance ≤3 mOhm  <p>two terminals per contact</p>	0.14 – 2.5	09 33 006 2672	09 33 006 2772	 <p>1) Distance for contact max. 21 mm</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>M</p> </div> <div style="text-align: center;">  <p>F</p> </div> </div> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>

Number of contacts

10+

500 V
16 A

Han
E/EE


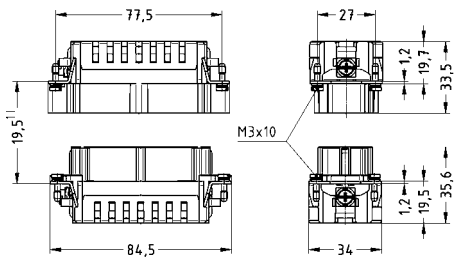

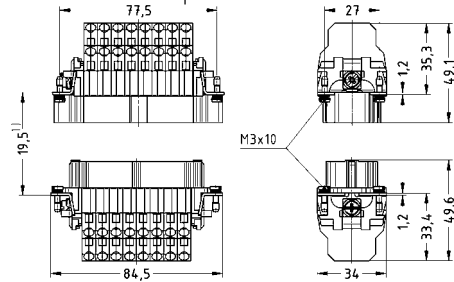
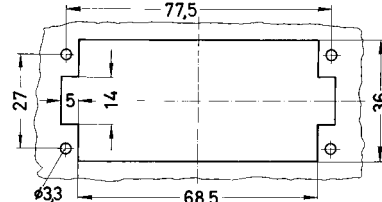
Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p>Han® ES, Cage-clamp terminal, silver plated contacts, contact resistance ≤3 mOhm</p> 	0.14 – 2.5	09 33 010 2616	09 33 010 2716	 <p>1) Distance for contact max. 21 mm</p>
<p>Han® ESS, Cage-clamp terminal, silver plated contacts, contact resistance ≤3 mOhm</p>  <p>two terminals per contact</p>	0.14 – 2.5	09 33 010 2672	09 33 010 2772	 <p>1) Distance for contact max. 21 mm</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div data-bbox="1268 1384 1380 1568"> <p>M</p> </div> <div data-bbox="1396 1384 1508 1568"> <p>F</p> </div> </div> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>

Number of contacts

16+

500 V
16 A

Han
E/EE


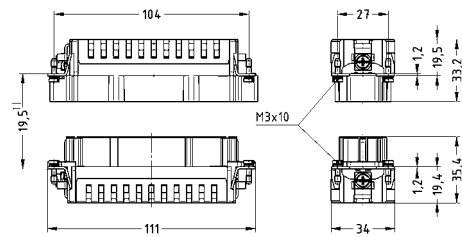

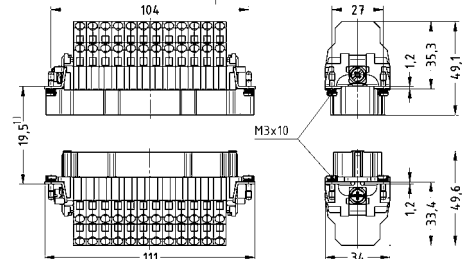
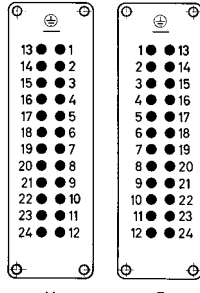
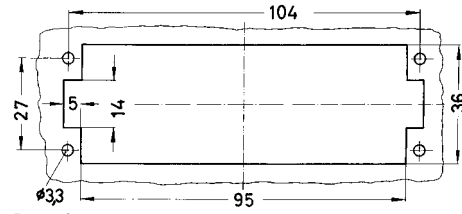
Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																																																
		male	female																																																	
<p>Han® ES, Cage-clamp terminal, silver plated contacts, contact resistance ≤3 mOhm</p> 	0.14 – 2.5	09 33 016 2616	09 33 016 2716	 <p>1) Distance for contact max. 21 mm</p>																																																
<p>Han® ESS, Cage-clamp terminal, silver plated contacts, contact resistance ≤3 mOhm</p>  <p>two terminals per contact</p>	0.14 – 2.5	09 33 016 2672	09 33 016 2772	 <p>1) Distance for contact max. 21 mm</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>M</p> <table border="0"> <tr><td>9</td><td>●</td><td>1</td></tr> <tr><td>10</td><td>●</td><td>2</td></tr> <tr><td>11</td><td>●</td><td>3</td></tr> <tr><td>12</td><td>●</td><td>4</td></tr> <tr><td>13</td><td>●</td><td>5</td></tr> <tr><td>14</td><td>●</td><td>6</td></tr> <tr><td>15</td><td>●</td><td>7</td></tr> <tr><td>16</td><td>●</td><td>8</td></tr> </table> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>F</p> <table border="0"> <tr><td>1</td><td>●</td><td>9</td></tr> <tr><td>2</td><td>●</td><td>10</td></tr> <tr><td>3</td><td>●</td><td>11</td></tr> <tr><td>4</td><td>●</td><td>12</td></tr> <tr><td>5</td><td>●</td><td>13</td></tr> <tr><td>6</td><td>●</td><td>14</td></tr> <tr><td>7</td><td>●</td><td>15</td></tr> <tr><td>8</td><td>●</td><td>16</td></tr> </table> </div> </div> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>	9	●	1	10	●	2	11	●	3	12	●	4	13	●	5	14	●	6	15	●	7	16	●	8	1	●	9	2	●	10	3	●	11	4	●	12	5	●	13	6	●	14	7	●	15	8	●	16
9	●	1																																																		
10	●	2																																																		
11	●	3																																																		
12	●	4																																																		
13	●	5																																																		
14	●	6																																																		
15	●	7																																																		
16	●	8																																																		
1	●	9																																																		
2	●	10																																																		
3	●	11																																																		
4	●	12																																																		
5	●	13																																																		
6	●	14																																																		
7	●	15																																																		
8	●	16																																																		

Number of contacts

24+

500 V
16 A

Han
E/EE

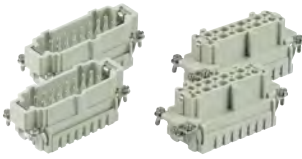
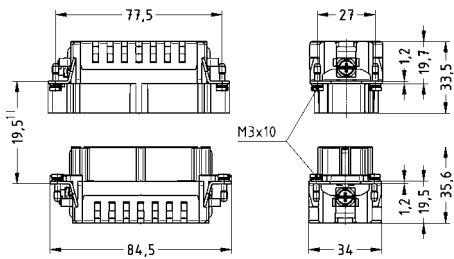
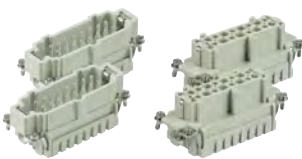
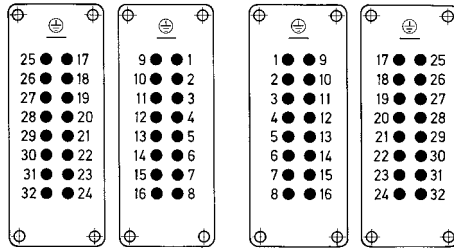
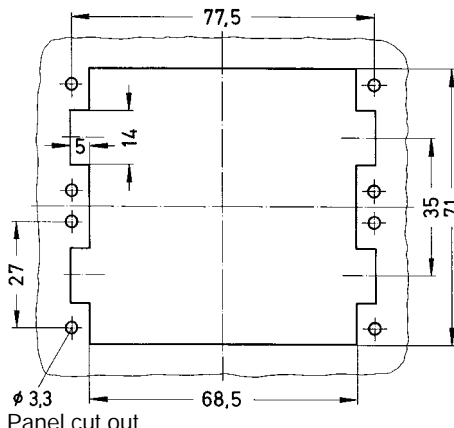
Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
<p>Han® ES, Cage-clamp terminal, silver plated contacts, contact resistance ≤3 mOhm</p> 	0.14 – 2.5	09 33 024 2616	09 33 024 2716	 <p>1) Distance for contact max. 21 mm</p>
<p>Han® ESS, Cage-clamp terminal, silver plated contacts, contact resistance ≤3 mOhm</p>  <p>two terminals per contact</p>	0.14 – 2.5	09 33 024 2672	09 33 024 2772	 <p>1) Distance for contact max. 21 mm</p>
 <p>M F</p>				
<p>Panel cut out</p> 				

Number of contacts

32+

500 V
16 A

Han
E/EE

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
<p>Han® ES, Cage-clamp terminal, 1 - 16, silver plated contacts, contact resistance ≤3 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	0.14 – 2.5	09 33 016 2616	09 33 016 2716	 <p>1) Distance for contact max. 21 mm</p>
<p>Han® ES, Cage-clamp terminal, 17 - 32, silver plated contacts, contact resistance ≤3 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	0.14 – 2.5	09 33 016 2626	09 33 016 2726	 <p>M F</p> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	

Han® ESS,
Cage-clamp terminal,
silver plated contacts,
contact resistance ≤3 mOhm

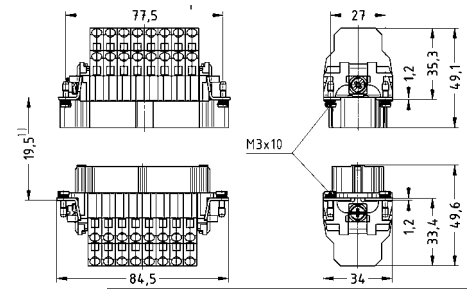


Please order two inserts for a complete assembly!

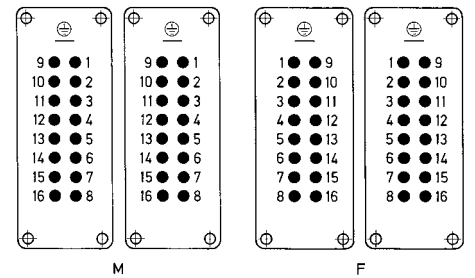
0.14 – 2.5

09 33 016 2672

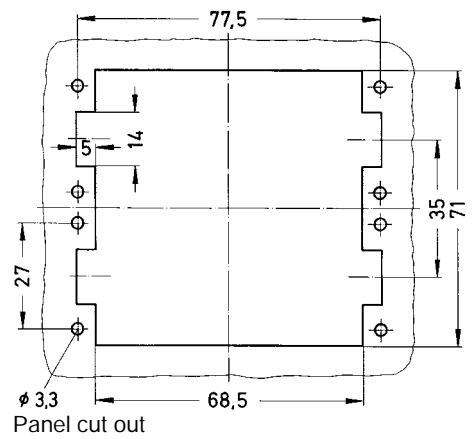
09 33 016 2772



1) Distance for contact max. 21 mm



Contact arrangement (view from termination side)



Number of contacts

48+

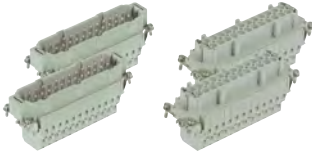
500 V
16 A

Han
E/EE

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
<p>Han® ES, Cage-clamp terminal, 1 - 24, silver plated contacts, contact resistance ≤3 mOhm</p> <p>Please order two inserts for a complete assembly!</p>	0.14 – 2.5	09 33 024 2616	09 33 024 2716	<p>1) Distance for contact max. 21 mm</p>
<p>Han® ES, Cage-clamp terminal, 25 - 48, silver plated contacts, contact resistance ≤3 mOhm</p> <p>Please order two inserts for a complete assembly!</p>	0.14 – 2.5	09 33 024 2626	09 33 024 2726	<p>Contact arrangement (view from termination side)</p> <p>Panel cut out</p>

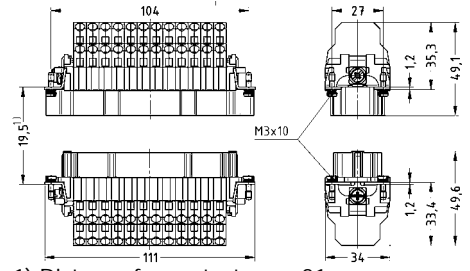
Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	

Han® ESS,
Cage-clamp terminal,
silver plated contacts,
contact resistance ≤3 mOhm

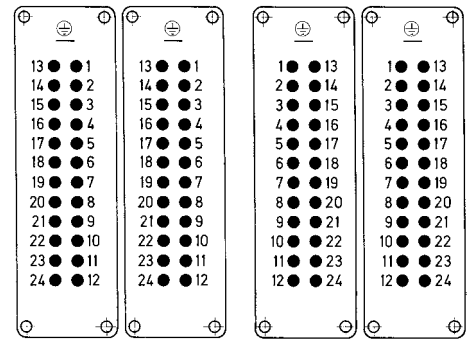


Please order two inserts for a complete assembly!

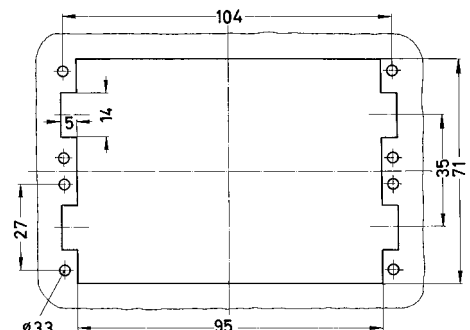
0.14 – 2.5 09 33 024 2672 09 33 024 2772



1) Distance for contact max. 21 mm



Contact arrangement (view from termination side)



Panel cut out

Han
E/EE

Features

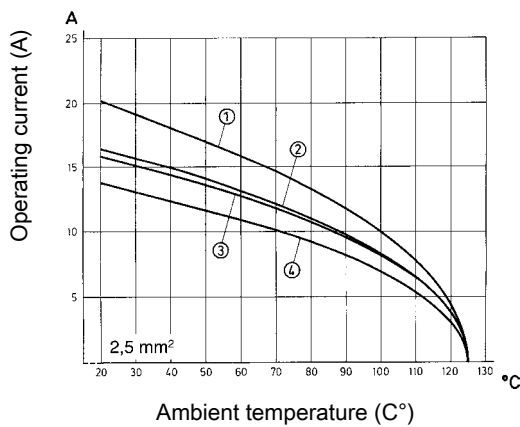
- Higher density of crimping contacts
- Coded insert
- Gold and silver contacts available

Derating

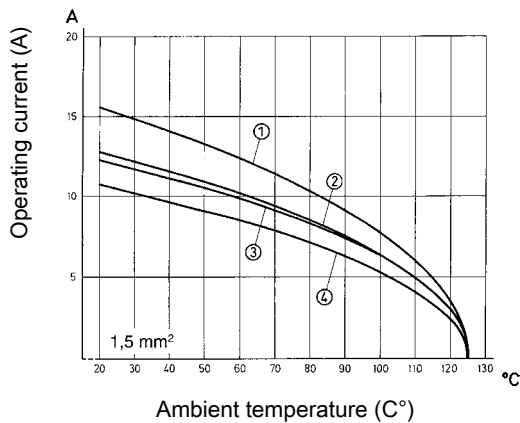
Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han® 10 EE
- ② Han® 18 EE
- ③ Han® 32 EE Han® 64 EE
- ④ Han® 46 EE Han® 92 EE



- ① Han® 10 EE
- ② Han® 18 EE
- ③ Han® 32 EE Han® 64 EE
- ④ Han® 46 EE Han® 92 EE

Technical characteristics

Contacts	10, 18, 32, 46, 64, 92
Electrical data acc. to IEC 61984	16 A 500 V 6 kV 3
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Internal use in the switch cabinet in conjunction with Han-Snap® (see chapter 11)

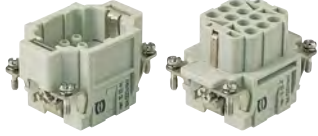
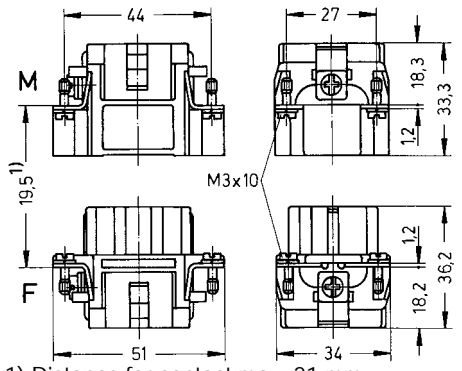
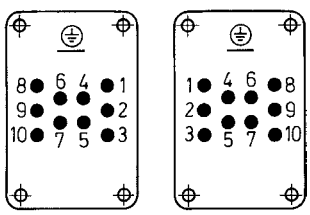
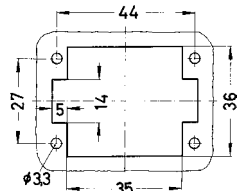
Suitable for hoods/housings of series Han® B, Han® M, Han® EMV, Han® HPR, Han® Easy Hood (see chapter 31)

Number of contacts

10+

500 V
16 A

Han
E/EE


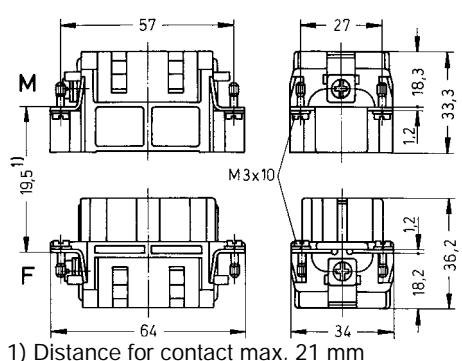
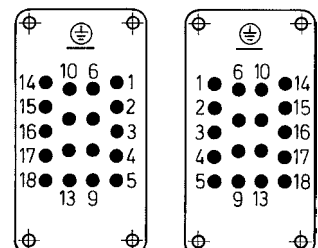
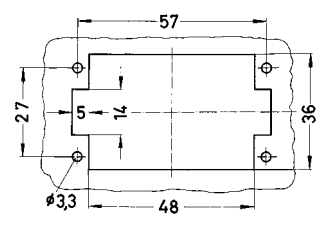
Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han® EE, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>	<p>09 32 010 3001</p>	<p>09 32 010 3101</p>	 <p>1) Distance for contact max. 21 mm</p>  <p>M F</p> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>

Number of contacts

18+

500 V
16 A

Han
E/EE


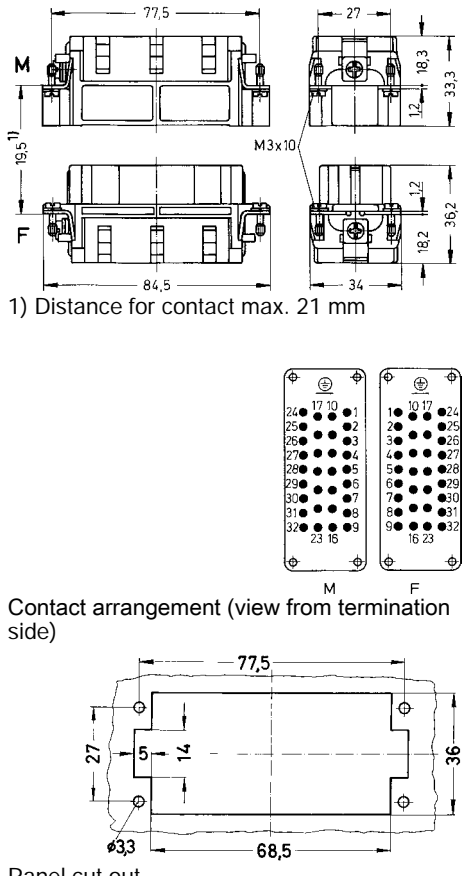
Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han® EE, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>	<p>09 32 018 3001</p>	<p>09 32 018 3101</p>	 <p>1) Distance for contact max. 21 mm</p>  <p>M F</p> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>

Number of contacts

32+

500 V
16 A

Han
E/EE

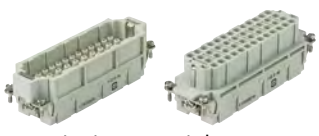
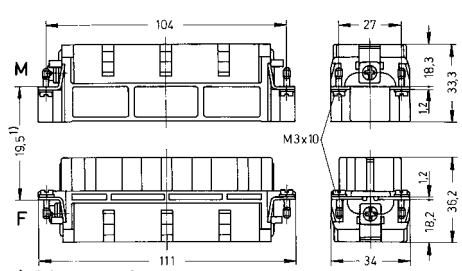
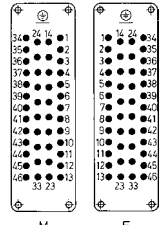
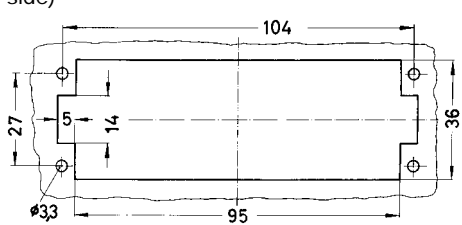
Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han® EE, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>	<p>09 32 032 3001</p>	<p>09 32 032 3101</p>	 <p>1) Distance for contact max. 21 mm</p> <p>Contact arrangement (view from termination side)</p> <p>Panel cut out</p>

Number of contacts

46+

500 V
16 A

Han
E/EE


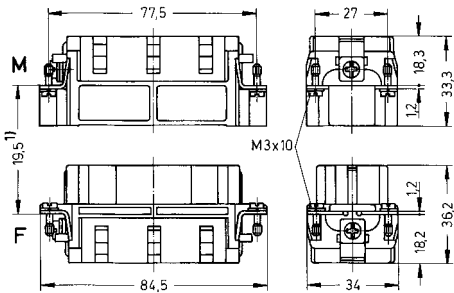
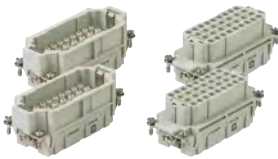
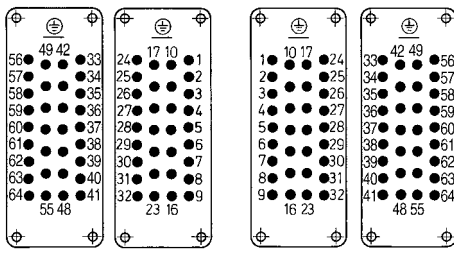
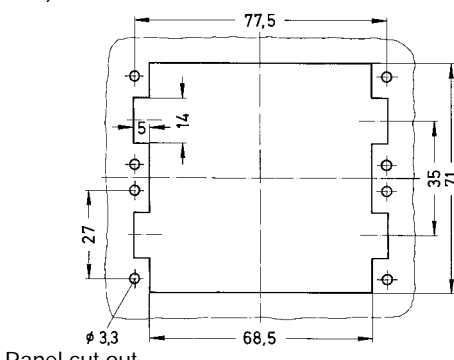
Identification	Part number		Drawing Dimensions in mm
	male	female	
Han® EE, Crimp terminal  Please order crimp contacts separately.	09 32 046 3001	09 32 046 3101	 <p>1) Distance for contact max. 21 mm</p>  <p> Contact arrangement (view from termination side) </p>  <p>Panel cut out</p>

Number of contacts

64+

500 V
16 A

Han
E/EE

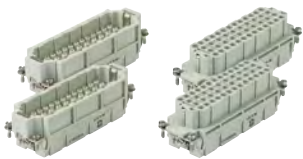
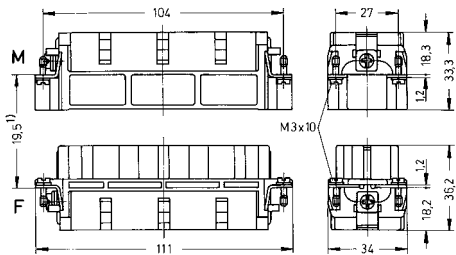
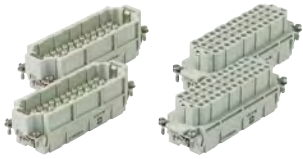
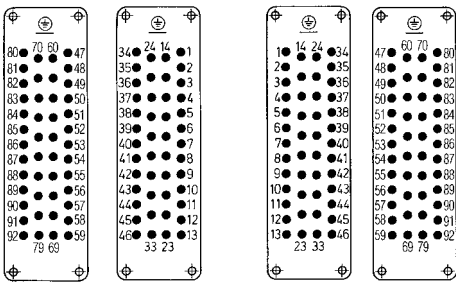
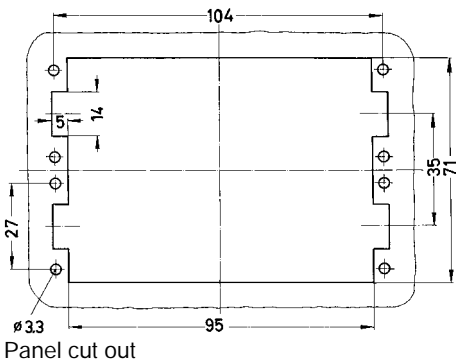
Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han® EE, Crimp terminal, 1 - 32</p>  <p>Please order crimp contacts separately. Please order two inserts for a complete assembly!</p>	09 32 032 3001	09 32 032 3101	 <p>1) Distance for contact max. 21 mm</p>
<p>Han® EE, Crimp terminal, 33 - 64</p>  <p>Please order crimp contacts separately. Please order two inserts for a complete assembly!</p>	09 32 032 3011	09 32 032 3111	 <p>M F</p> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>

Number of contacts

92+

500 V
16 A

Han
E/EE

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han® EE, Crimp terminal, 1 - 46</p>  <p>Please order crimp contacts separately. Please order two inserts for a complete assembly!</p>	09 32 046 3001	09 32 046 3101	 <p>1) Distance for contact max. 21 mm</p>
<p>Han® EE, Crimp terminal, 47 - 92</p>  <p>Please order crimp contacts separately. Please order two inserts for a complete assembly!</p>	09 32 046 3011	09 32 046 3111	 <p>M F Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>

Features

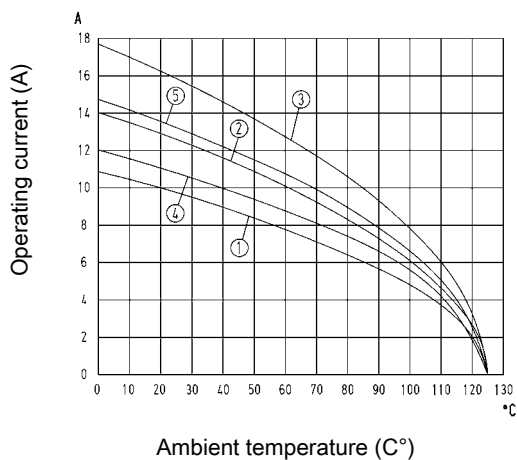
- Highest density of crimping contacts
- Coded insert
- Gold and silver contacts available

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han® 64 EEE / 1.5 mm²
- ② Han® 64 EEE / 2.5 mm²
- ③ Han® 64 EEE / 4 mm²
- ④ Han® 40 EEE / 1.5 mm²
- ⑤ Han® 40 EEE / 2.5 mm²

Technical characteristics

Contacts	40, 64
Electrical data acc. to IEC 61984	16 A 500 V 6 kV 3
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals

IEC 60664-1
IEC 61984

Details

Internal use in the switch cabinet in conjunction with Han-Snap® (see chapter 11)


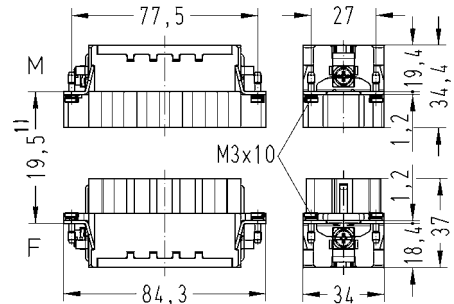
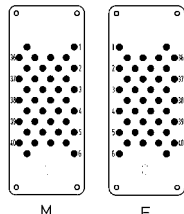
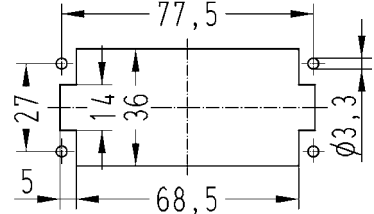
Suitable for hoods/housings of series Han® B, Han® M, Han® EMV, Han® HPR, Han® Easy Hood (see chapter 31)

Number of contacts

40+

500 V
16 A

Han
E/EE


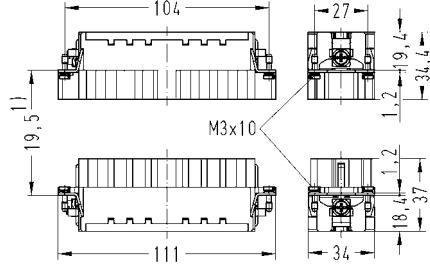
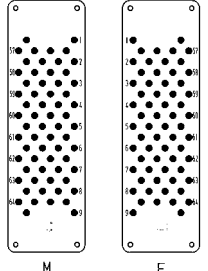
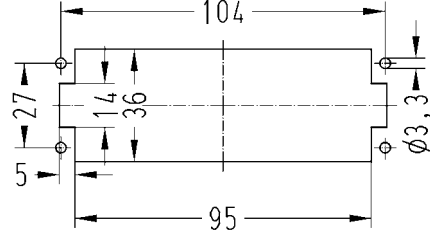
Identification	Part number		Drawing Dimensions in mm
	male	female	
Han® EEE, Crimp terminal  Please order crimp contacts separately.	09 32 040 3001	09 32 040 3101	 1) Distance for contact max. 21 mm  Contact arrangement (view from termination side)  Panel cut out

Number of contacts

64+

500 V
16 A

Han
E/EE

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han® EEE, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>	<p>09 32 064 3001</p>	<p>09 32 064 3101</p>	 <p>1) Distance for contact max. 21 mm</p>  <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>



Han
E/EE

Technical characteristics

Material (contact) copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984

Details


Crimping tools see chapter 90


Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

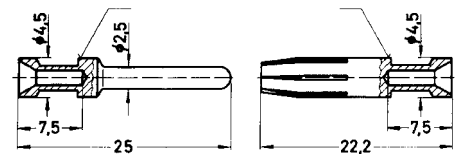
Coding pin

Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert.

Identification	Wire cross section (mm ²)	Part number	
		male	female
Han E [®] , Crimp contact, gold plated contacts, contact resistance ≤1 mOhm 	0.14–0.37	09 33 000 6117	09 33 000 6217
	0.5	09 33 000 6122	09 33 000 6222
	0.75	09 33 000 6115	09 33 000 6215
	1	09 33 000 6118	09 33 000 6218
	1.5	09 33 000 6116	09 33 000 6216
	2.5	09 33 000 6123	09 33 000 6223
	4	09 33 000 6119	09 33 000 6221

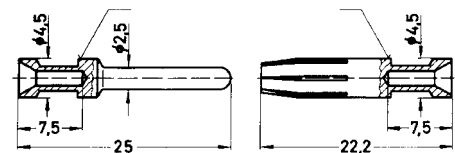
Han E [®] , Crimp contact, silver plated contacts, contact resistance ≤1 mOhm 	0.14–0.37	09 33 000 6127	09 33 000 6227
	0.5	09 33 000 6121	09 33 000 6220
	0.75	09 33 000 6114	09 33 000 6214
	1	09 33 000 6105	09 33 000 6205
	1.5	09 33 000 6104	09 33 000 6204
	2.5	09 33 000 6102	09 33 000 6202
	3 4	09 33 000 6106 09 33 000 6107	09 33 000 6206 09 33 000 6207

Drawing
Dimensions in mm




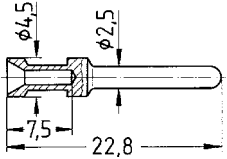

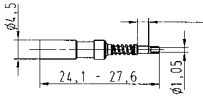
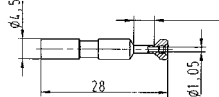

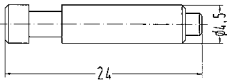
Identification	Wire gauge	Stripping length
no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm
no groove	0.5 mm ² AWG 20	7.5 mm
1 groove*	0.75 mm ² AWG 18	7.5 mm
1 groove	1 mm ² AWG 18	7.5 mm
2 grooves	1.5 mm ² AWG 18	7.5 mm
3 grooves	2.5 mm ² AWG 14	7.5 mm
wide groove	3 mm ² AWG 12	7.5 mm
no groove	4 mm ² AWG 12	7.5 mm

* on the back crimp collar



Identification	Wire gauge	Stripping length
no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm
no groove	0.5 mm ² AWG 20	7.5 mm
1 groove*	0.75 mm ² AWG 18	7.5 mm
1 groove	1 mm ² AWG 18	7.5 mm
2 grooves	1.5 mm ² AWG 18	7.5 mm
3 grooves	2.5 mm ² AWG 14	7.5 mm
wide groove	3 mm ² AWG 12	7.5 mm
no groove	4 mm ² AWG 12	7.5 mm

* on the back crimp collar

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han E [®] , Relay contact, silver plated contacts, contact resistance ≤1 mOhm 	0.75 – 1 1.5 2.5	09 33 000 6109 09 33 000 6110 09 33 000 6111		 <p>Stripping length 7.5 mm</p>
Han E [®] , F.O. contact  for 1 mm plastic fibre		20 10 001 3311	20 10 001 3321	  <p>Crimp zone</p>
Han E [®] , Han [®] EE, Han [®] EEE, Coding pin, plastic  for crimp inserts only			09 33 000 9954	

Han
E/EE

Contents	Page
Han Hv E [®]	04.3
Han [®] 16 / 32 Hv E.....	04.9
Han [®] Hv ES	04.12
Contacts	04.18
Hoods/Housings	04.19

Han
Hv E

Standard Hoods/Housings Han[®] B

Suitable for
Han[®] Hv ES cage-clamp terminal
and Han Hv E[®] crimp terminal

Coding bar



Special hood/housing Han Hv E[®]

Suitable for
Han Hv E[®] screw terminal

Milled coding bar

Coding pin

Insulation tape



Features

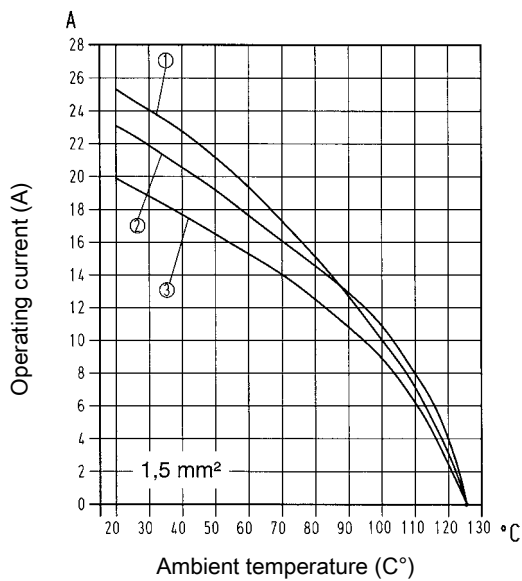
- Designed for application up to 830 V
- Available in several termination techniques

Derating

Current carrying capacity

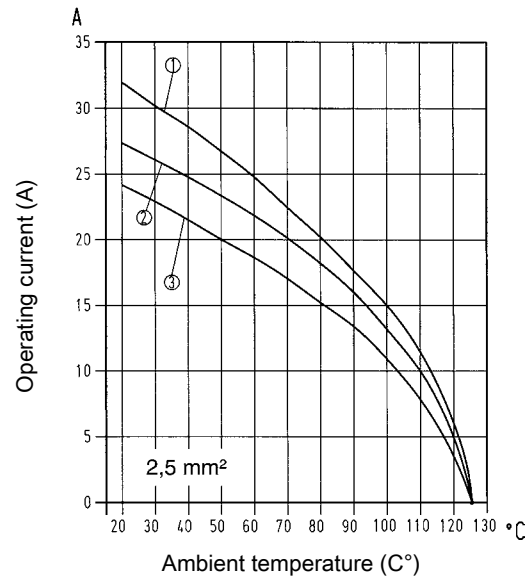
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han® 3 Hv E
- ② Han® 6 / 12 Hv E
- ③ Han® 10 / 16 / 20 / 32 Hv E

Derating



- ① Han® 3 Hv E
- ② Han® 6 / 12 Hv E
- ③ Han® 10 / 16 / 20 / 32 Hv E

Technical characteristics

Contacts	3, 6, 10, 12, 20
Electrical data acc. to IEC 61984	16 A 830 V 8 kV 3
Rated current	16 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Tightening torque	0.5 Nm
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 61984
IEC 60664-1



Details

Han Hv E® screw requires special Han Hv E® housings


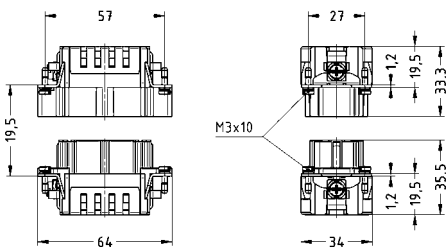

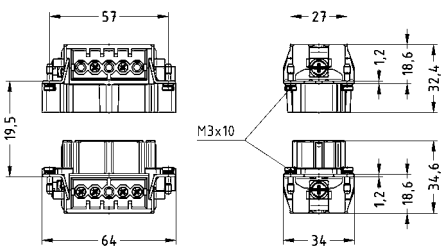
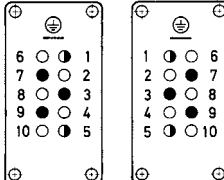
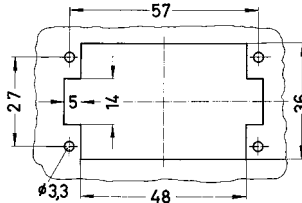
Number of contacts

3+

830 V
16 A

+ 2 additional contacts for safe high voltage connections


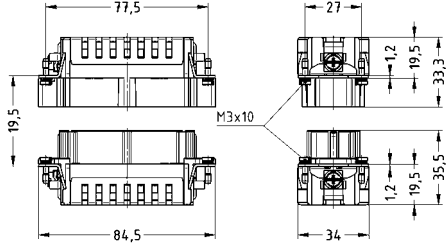

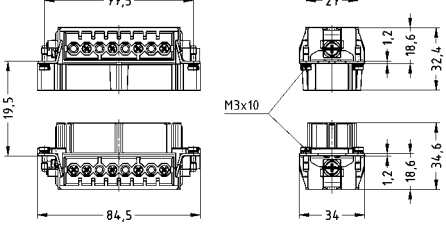
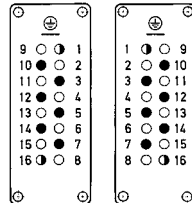
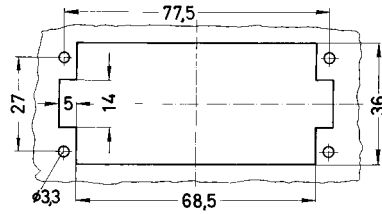
Han
Hv E

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm	
<p>Han Hv E®, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 34 003 2602	09 34 003 2702		
<p>Han Hv E®, Screw terminal, silver plated contacts, contact resistance ≤1 mOhm</p> 	0.75 – 2.5	09 34 003 2601	09 34 003 2701	  <p style="text-align: center;">M F</p> <p>Contact arrangement (view from termination side) Han® 3 Hv E</p> <ul style="list-style-type: none"> ◆ Working contact ● Relay contact ○ Without contact  <p>Panel cut out for inserts for use without hoods/housings</p>	

Number of contacts

6+

830 V
16 A
+ 2 additional contacts for safe high voltage connections

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p>Han Hv E®, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 34 006 2602	09 34 006 2702	
<p>Han Hv E®, Screw terminal, silver plated contacts, contact resistance ≤1 mOhm</p> 	0.75 – 2.5	09 34 006 2601	09 34 006 2701	  <p> Contact arrangement (view from termination side) Han® 6 Hv E ♦ Working contact ● Relay contact ○ Without contact </p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Number of contacts

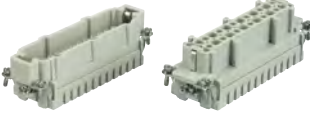
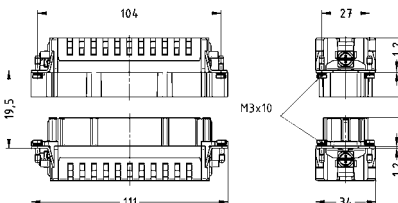

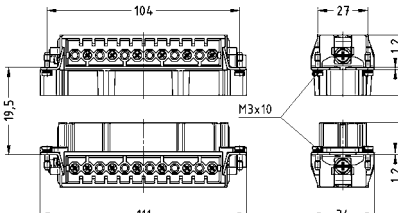
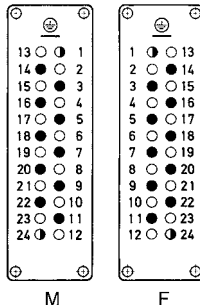
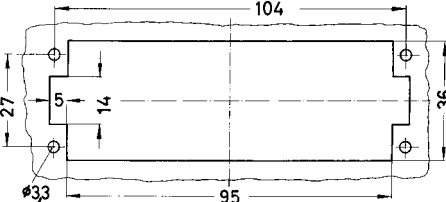
10+

830 V

16 A

+ 2 additional contacts for safe high voltage connections

Han
Hv E

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p>Han Hv E®, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 34 010 2602	09 34 010 2702	
<p>Han Hv E®, Screw terminal, silver plated contacts, contact resistance ≤1 mOhm</p> 	0.75–2.5	09 34 010 2601	09 34 010 2701	  <p>M F</p> <p>Contact arrangement (view from termination side) Han® 10 Hv E</p> <ul style="list-style-type: none"> ◆ Working contact ● Relay contact ○ Without contact  <p>Panel cut out for inserts for use without hoods/housings</p>


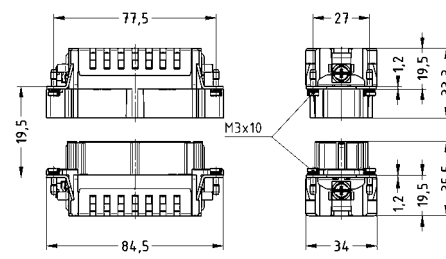

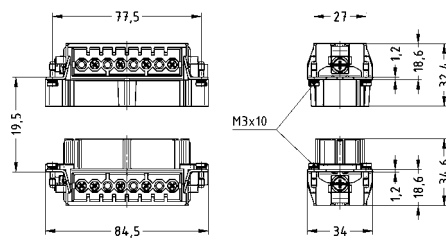
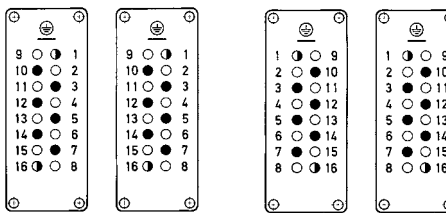
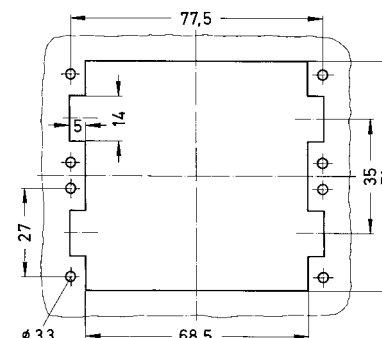
Number of contacts

12+

830 V

16 A

+ 4 additional contacts for safe high voltage connections

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p>Han Hv E®, Crimp terminal</p>  <p>Please order crimp contacts separately. Please order two inserts for a complete assembly!</p>		09 34 006 2602	09 34 006 2702	
<p>Han Hv E®, Screw terminal, silver plated contacts, contact resistance ≤1 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	0.75 – 2.5	09 34 006 2601	09 34 006 2701	  <p style="text-align: center;">M F</p> <p>Contact arrangement (view from termination side) Han® 12 Hv E</p> <ul style="list-style-type: none"> ◆ Working contact ● Relay contact ○ Without contact  <p>Panel cut out for inserts for use without hoods/housings</p>

Number of contacts

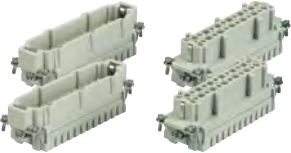
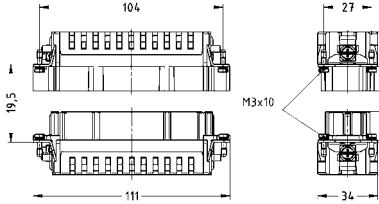

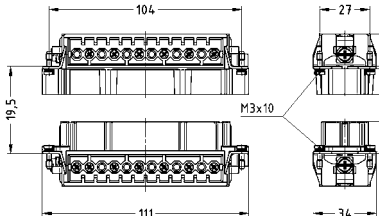
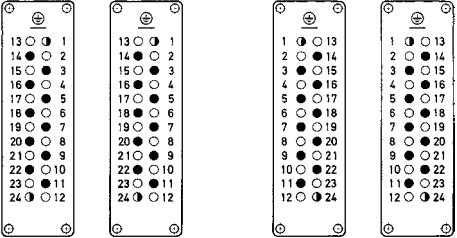
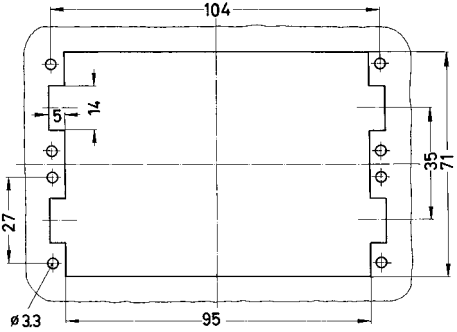
20+

830 V

16 A

+ 4 additional contacts for safe high voltage connections

Han
Hv E

Identification	Wire cross section (mm²)	Part number male female		Drawing Dimensions in mm
<p>Han Hv E®, Crimp terminal</p>  <p>Please order crimp contacts separately. Please order two inserts for a complete assembly!</p>		09 34 010 2602	09 34 010 2702	
<p>Han Hv E®, Screw terminal, silver plated contacts, contact resistance ≤1 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	0.75 – 2.5	09 34 010 2601	09 34 010 2701	  <p>M F Contact arrangement (view from termination side) Han® 20 Hv E</p> <ul style="list-style-type: none"> ◆ Working contact ● Relay contact ○ Without contact  <p>Panel cut out for inserts for use without hoods/housings</p>

Features

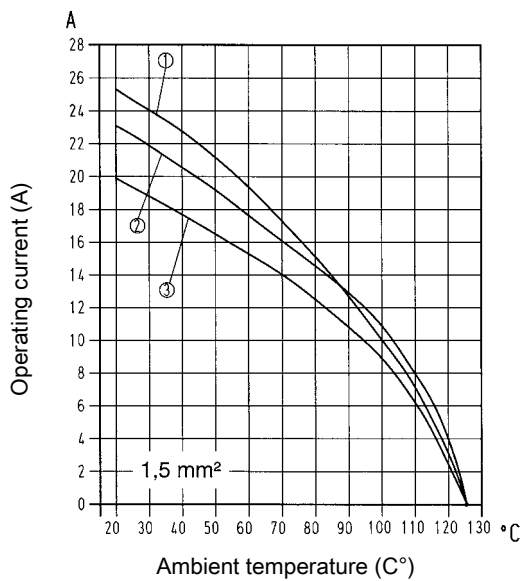
- Designed for application up to 690 V
- No special tools required

Derating

Current carrying capacity

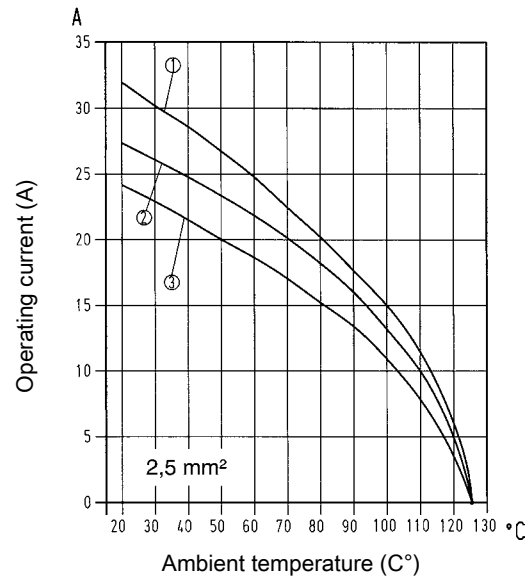
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han® 3 Hv E
- ② Han® 6 / 12 Hv E
- ③ Han® 10 / 16 / 20 / 32 Hv E

Derating



- ① Han® 3 Hv E
- ② Han® 6 / 12 Hv E
- ③ Han® 10 / 16 / 20 / 32 Hv E

Technical characteristics

Contacts	16, 32
Electrical data acc. to IEC 61984	16 A 400/690 V 6 kV 3
Rated current	16 A
Rated voltage conductor - ground	400 V
Rated voltage conductor - conductor	690 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Tightening torque	0.5 Nm
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Han Hv E® srew requires special Han Hv E® housings

Number of contacts


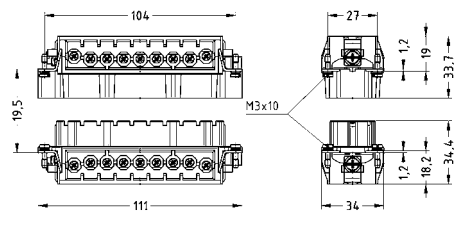
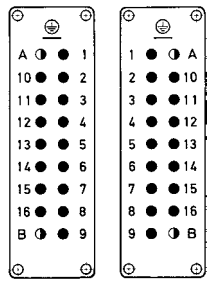
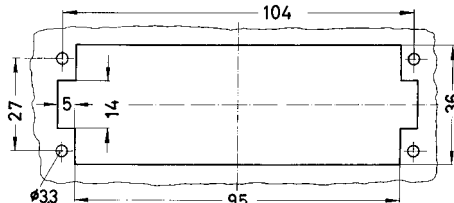
16+

400/690 V

16 A

+ 2 additional contacts for safe high voltage connections

Han
Hv E

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p>Han Hv E[®], Screw terminal, silver plated contacts, contact resistance ≤1 mOhm</p> 	<p>0.75 – 2.5</p>	<p>09 34 016 2601</p>	<p>09 34 016 2701</p>	  <p style="text-align: center;">M F</p> <p>Contact arrangement (view from termination side) Han[®] 16 Hv E</p> <ul style="list-style-type: none"> ◆ Working contact ● Relay contact ○ Without contact  <p>Panel cut out for inserts for use without hoods/housings</p>

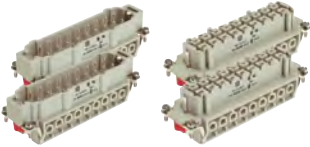
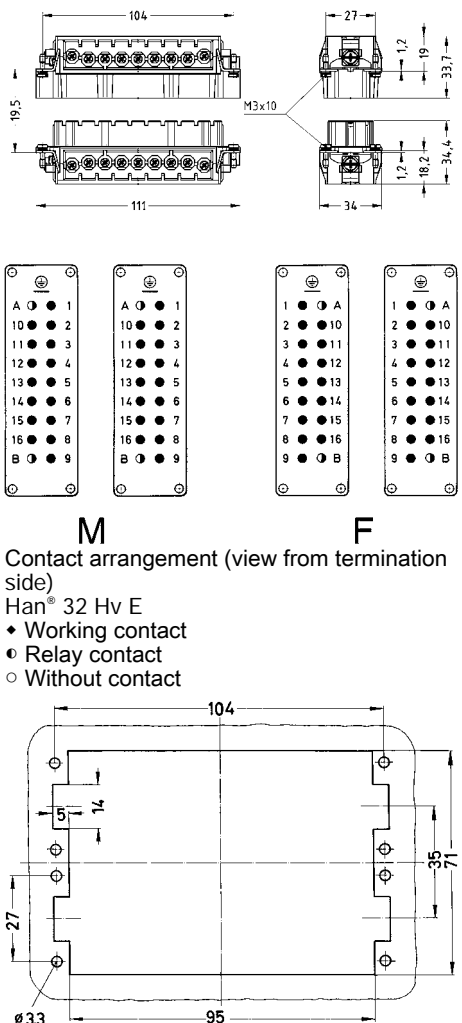
Number of contacts

32+

400/690 V

16 A

+ 4 additional contacts for safe high voltage connections

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p>Han Hv E®, Screw terminal, silver plated contacts, contact resistance ≤1 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	<p>0.75–2.5</p>	<p>09 34 016 2601</p>	<p>09 34 016 2701</p>	 <p>M F Contact arrangement (view from termination side) Han® 32 Hv E <ul style="list-style-type: none"> ◆ Working contact ● Relay contact ○ Without contact </p> <p>Panel cut out for inserts for use without hoods/housings</p>

Features

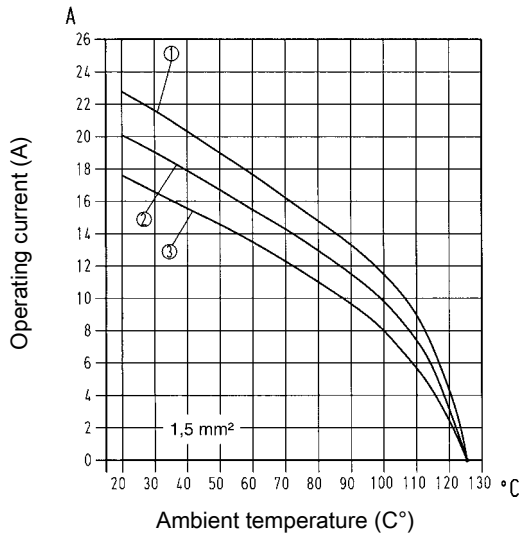
- Designed for application up to 830 V
- Reliable cage clamp termination
- No special tools required
- Vibration proofed

Derating

Current carrying capacity

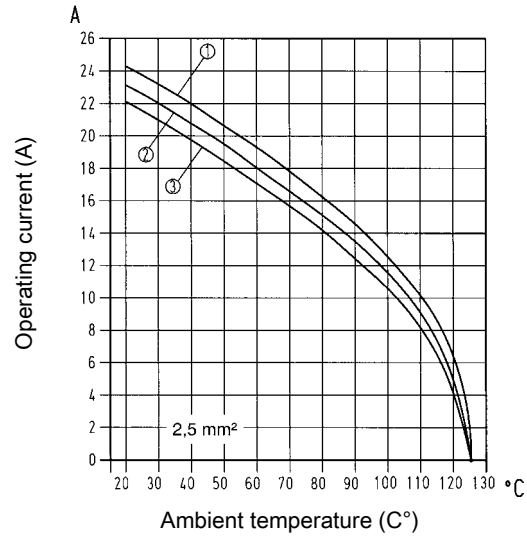
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han® 3 Hv ES
- ② Han® 6 Hv ES / Han® 12 Hv ES
- ③ Han® 10 Hv ES / Han® 20 Hv ES

Derating



- ① Han® 3 Hv ES
- ② Han® 6 Hv ES / Han® 12 Hv ES
- ③ Han® 10 Hv ES / Han® 20 Hv ES

Technical characteristics

Contacts	3, 6, 10, 12, 20
Electrical data acc. to IEC 61984	16 A 830 V 8 kV 3
Rated current	16 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Tightening torque	0.5 Nm
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 61984
IEC 60664-1



Details

Not plug compatible to Han Hv E® screw/crimp terminal


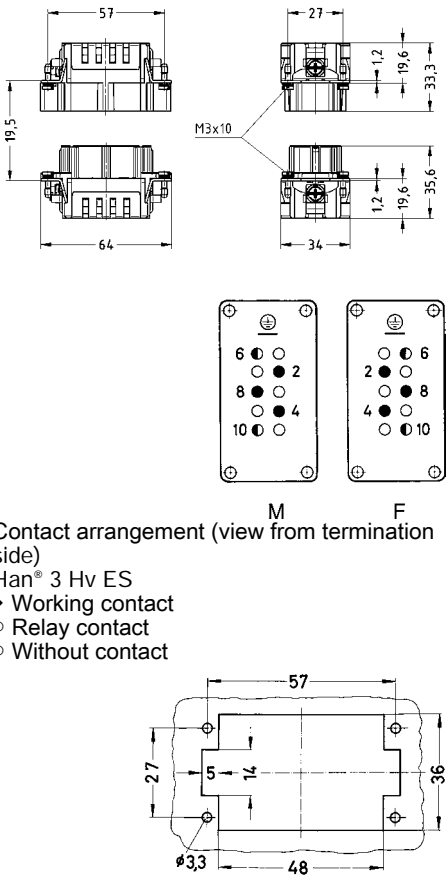
Number of contacts

3+

830 V

16 A

+ 2 additional contacts for safe high voltage connections

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm
		male	female	
<p>Han® Hv ES, Cage-clamp terminal, silver plated contacts, contact resistance ≤3 mOhm</p>  <p>not plug compatible to Han Hv E® screw/crimp terminal</p>	<p>0.14 – 2.5</p>	<p>09 34 003 2616</p>	<p>09 34 003 2716</p>	 <p>Panel cut out for inserts for use without hoods/housings</p>

Number of contacts


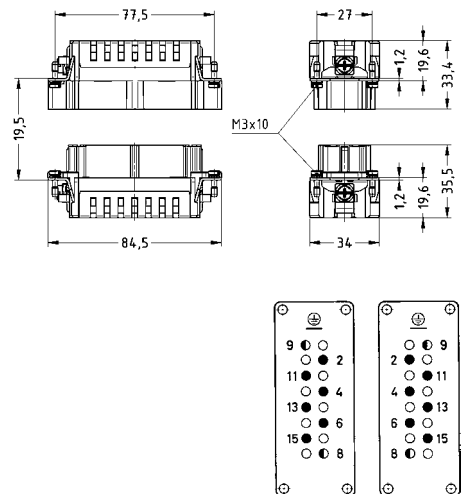
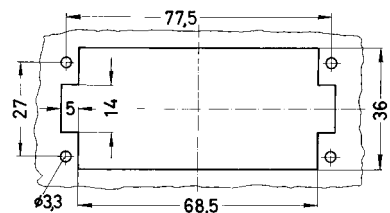
6+

830 V

16 A

+ 2 additional contacts for safe high voltage connections

Han
Hv E

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
<p>Han® Hv ES, Cage-clamp terminal, silver plated contacts, contact resistance ≤3 mOhm</p>  <p>not plug compatible to Han Hv E® screw/crimp terminal</p>	<p>0.14 – 2.5</p>	<p>09 34 006 2616</p>	<p>09 34 006 2716</p>	 <p> Contact arrangement (view from termination side) Han® 6 Hv ES ♦ Working contact ● Relay contact ○ Without contact </p> 

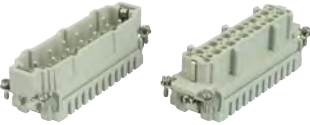
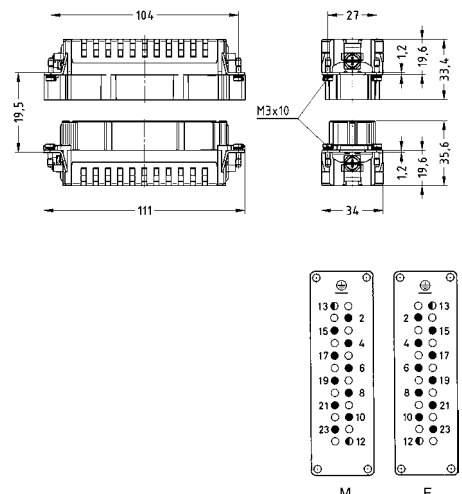
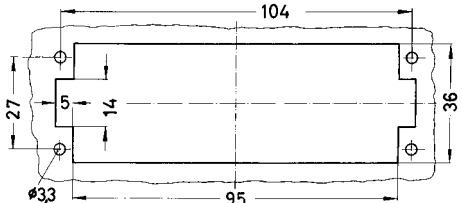
Number of contacts

10+

830 V

16 A

+ 2 additional contacts for safe high voltage connections

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p>Han® Hv ES, Cage-clamp terminal, silver plated contacts, contact resistance ≤3 mOhm</p>  <p>not plug compatible to Han Hv E® screw/crimp terminal</p>	<p>0.14 – 2.5</p>	<p>09 34 010 2616</p>	<p>09 34 010 2716</p>	 <p> Contact arrangement (view from termination side) Han® 10 Hv ES ♦ Working contact ● Relay contact ○ Without contact </p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Han Hv E

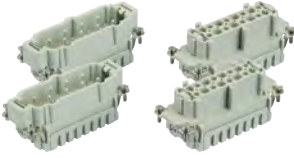
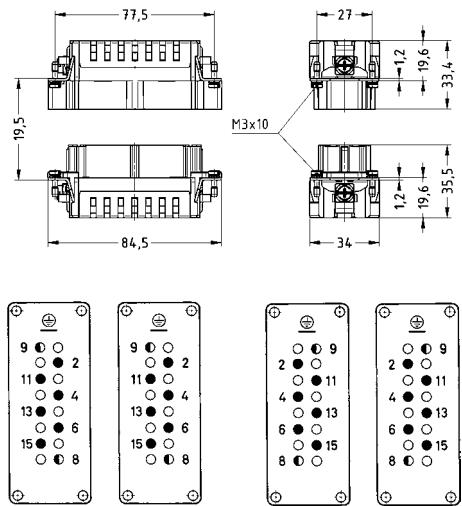
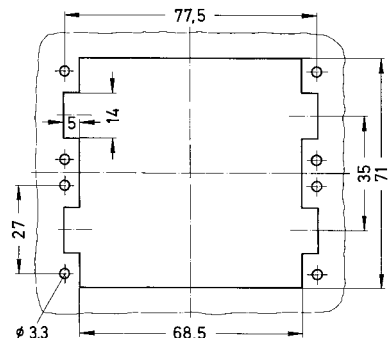
Number of contacts

12+

830 V
16 A

+ 4 additional contacts for safe high voltage connections

Han
Hv E

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p>Han® Hv ES, Cage-clamp terminal, silver plated contacts, contact resistance ≤3 mOhm</p>  <p>not plug compatible to Han Hv E® screw/crimp terminal Please order two inserts for a complete assembly!</p>	<p>0.14 – 2.5</p>	<p>09 34 006 2616</p>	<p>09 34 006 2716</p>	 <p>M F Contact arrangement (view from termination side) Han® 12 Hv ES</p>  <p>Panel cut out for inserts for use without hoods/housings</p>

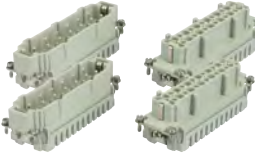
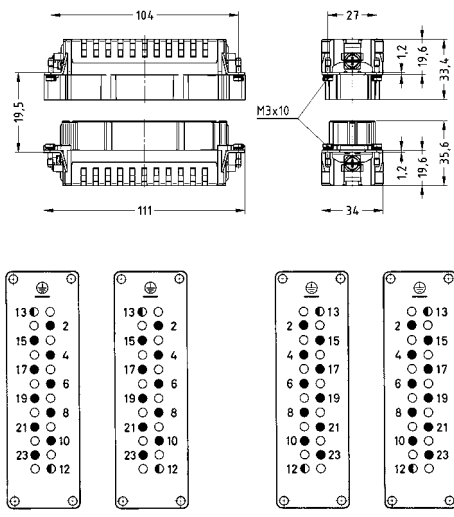
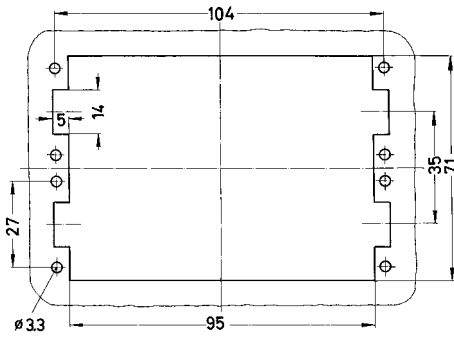
Number of contacts

20+

830 V

16 A

+ 4 additional contacts for safe high voltage connections

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p>Han® Hv ES, Cage-clamp terminal, silver plated contacts, contact resistance ≤3 mOhm</p>  <p>not plug compatible to Han Hv E® screw/crimp terminal Please order two inserts for a complete assembly!</p>	<p>0.14 – 2.5</p>	<p>09 34 010 2616</p>	<p>09 34 010 2716</p>	 <p>M F</p> <p>Contact arrangement (view from termination side) Han® 20 Hv ES</p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Technical characteristics

Material (contact) copper alloy

Specifications and approvals

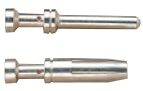
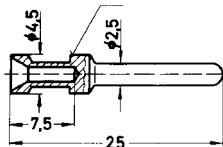
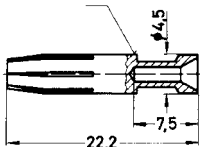

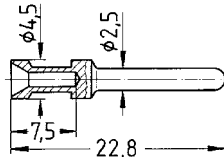
IEC 60664-1
IEC 61984

Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																											
		male	female																												
Han E [®] , Crimp contact, silver plated contacts, contact resistance ≤1 mOhm 	0.5	09 33 000 6121	09 33 000 6220	  <table border="1"> <thead> <tr> <th>Identification</th> <th>Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>no groove</td> <td>0.14-0.37 mm² AWG 26-22</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>0.5 mm² AWG 20</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove*</td> <td>0.75 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove</td> <td>1 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>2 grooves</td> <td>1.5 mm² AWG 16</td> <td>7.5 mm</td> </tr> <tr> <td>3 grooves</td> <td>2.5 mm² AWG 14</td> <td>7.5 mm</td> </tr> <tr> <td>wide groove</td> <td>3 mm² AWG 12</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>4 mm² AWG 12</td> <td>7.5 mm</td> </tr> </tbody> </table> <p>* on the back crimp collar</p>	Identification	Wire gauge	Stripping length	no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm	no groove	0.5 mm ² AWG 20	7.5 mm	1 groove*	0.75 mm ² AWG 18	7.5 mm	1 groove	1 mm ² AWG 18	7.5 mm	2 grooves	1.5 mm ² AWG 16	7.5 mm	3 grooves	2.5 mm ² AWG 14	7.5 mm	wide groove	3 mm ² AWG 12	7.5 mm	no groove	4 mm ² AWG 12	7.5 mm
	Identification	Wire gauge	Stripping length																												
	no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm																												
	no groove	0.5 mm ² AWG 20	7.5 mm																												
	1 groove*	0.75 mm ² AWG 18	7.5 mm																												
	1 groove	1 mm ² AWG 18	7.5 mm																												
	2 grooves	1.5 mm ² AWG 16	7.5 mm																												
	3 grooves	2.5 mm ² AWG 14	7.5 mm																												
wide groove	3 mm ² AWG 12	7.5 mm																													
no groove	4 mm ² AWG 12	7.5 mm																													
0.75	09 33 000 6114	09 33 000 6214																													
1	09 33 000 6105	09 33 000 6205																													
1.5	09 33 000 6104	09 33 000 6204																													
2.5	09 33 000 6102	09 33 000 6202																													
3	09 33 000 6106	09 33 000 6206																													
4	09 33 000 6107	09 33 000 6207																													
Han E [®] , Relay contact, silver plated contacts, contact resistance ≤1 mOhm 	0.75 - 1	09 33 000 6109		 Stripping length 7.5 mm																											
	1.5	09 33 000 6110																													
	2.5	09 33 000 6111																													

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (locking lever) acc. to UL 94	V 0
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	aluminium
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 7037 (grey)
Material (locking lever)	polycarbonate + stainless steel
Material (seal)	NBR

Specifications and approvals

NEMA 4/4x/12




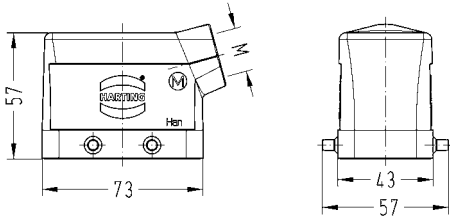

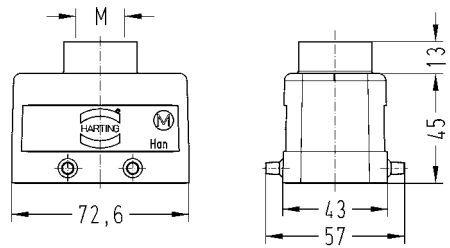

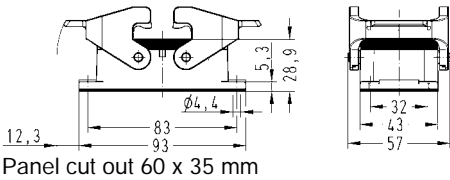

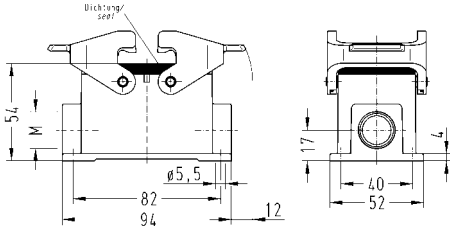

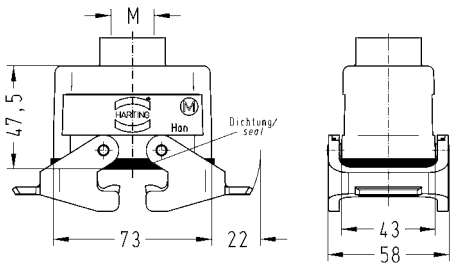
Details

Standard hoods/housings see chapter 31


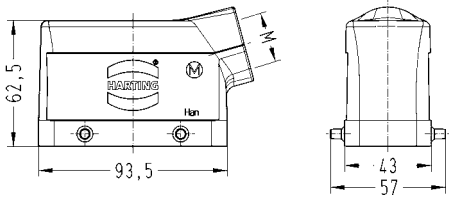

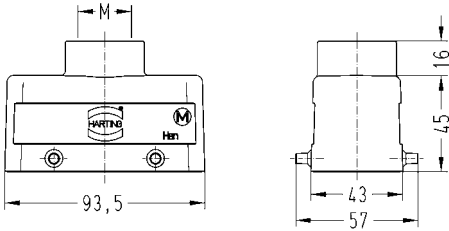

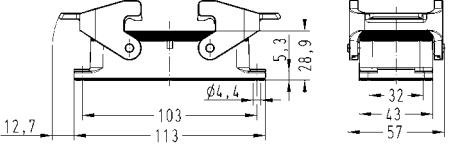

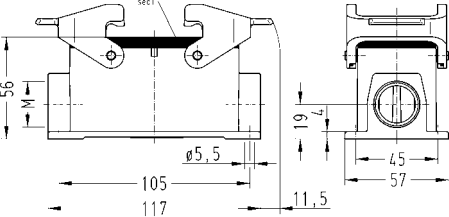

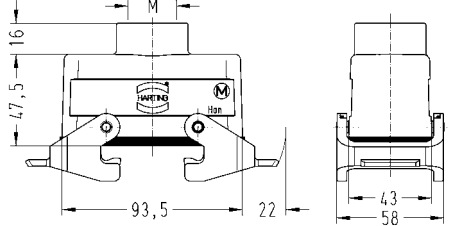
Han
Hv E

Special hood/housing for Han Hv E® screw terminal double locking lever

Han Hv E


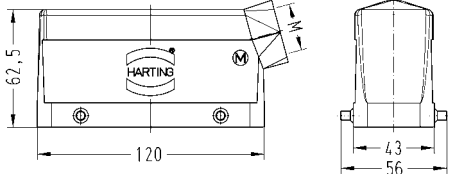

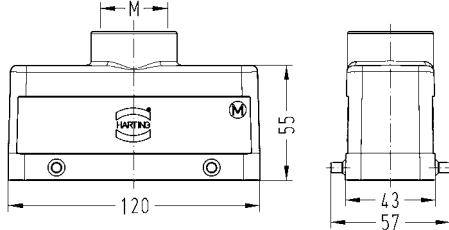

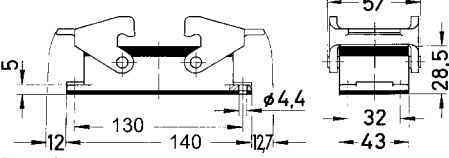

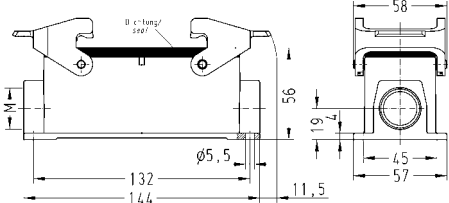

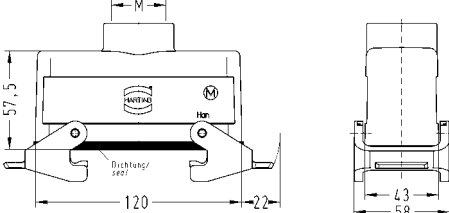
Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han Hv E®, Hoods, side entry</p> 	<p>1xM20</p>	<p>19 34 003 0520</p>	
<p>Han Hv E®, Hoods, top entry</p> 	<p>1xM20 1xM25</p>	<p>19 34 003 0420 19 34 003 0421</p>	
<p>Han Hv E®, Bulkhead mounted housings, Han-Easy Lock®</p> 		<p>09 34 003 0301</p>	 <p>Panel cut out 60 x 35 mm</p>
<p>Han Hv E®, Surface mounted housings, side entry, Han-Easy Lock®</p> 	<p>2xM20</p>	<p>19 34 003 0270</p>	
<p>Han Hv E®, Cable to cable housings, top entry, Han-Easy Lock®</p> 	<p>1xM20 1xM25</p>	<p>19 34 003 0730 19 34 003 0731</p>	

Special hood/housing for Han Hv E® screw terminal double locking lever

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han Hv E®, Hoods, side entry 	1xM25	19 34 006 0521	
Han Hv E®, Hoods, top entry 	1xM25	19 34 006 0421	
Han Hv E®, Bulkhead mounted housings, Han-Easy Lock® 		09 34 006 0301	 <p>Panel cut out 82 x 35mm</p>
Han Hv E®, Surface mounted housings, side entry, Han-Easy Lock® 	2xM25	19 34 006 0271	
Han Hv E®, Cable to cable housings, top entry, Han-Easy Lock® 	1xM25 1xM32	19 34 006 0731 19 34 006 0732	

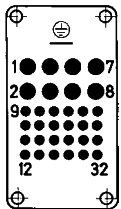
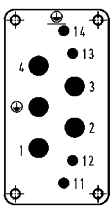
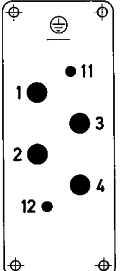
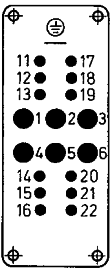
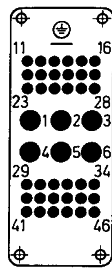
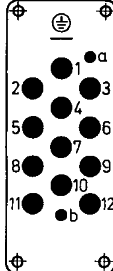
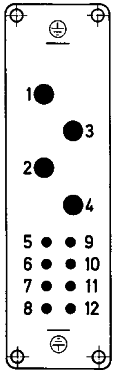
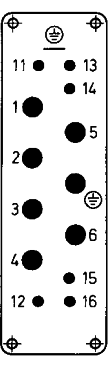
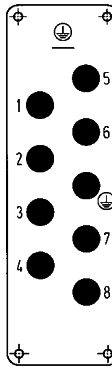
Special hood/housing for Han Hv E® screw terminal double locking lever

Han Hv E

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han Hv E®, Hoods, side entry</p> 	1xM25	19 34 010 0521	
<p>Han Hv E®, Hoods, top entry</p> 	1xM32	19 34 010 0422	
<p>Han Hv E®, Bulkhead mounted housings, Han-Easy Lock®</p> 		09 34 010 0301	 <p>Panel cut out 108 x 35 mm</p>
<p>Han Hv E®, Surface mounted housings, side entry, Han-Easy Lock®</p> 	2xM25	19 34 010 0271	
<p>Han Hv E®, Cable to cable housings, top entry, Han-Easy Lock®</p> 	1xM32	19 34 010 0732	

Contents	Page
Han® K 4/4.....	05.8
Han® K 8/24.....	05.10
Han® K 4/0.....	05.13
Han® K 4/2.....	05.15
Han® K 6/12.....	05.17
Han® K 6/36.....	05.19
Han® K 12/2.....	05.22
Han® K 4/8.....	05.25
Han® K 6/6.....	05.27
Han® K 8/0.....	05.29

Han-Com

Size	Description
10 B	  <p> Han® K 8/24 16 A / 230/400 V 10 A / 160 V </p> <p> Han® K 4/4 63 A / 690 V 16 A / 230 V </p>
16 B	    <p> Han® K 4/0, 4/2 80 A / 830 V 16 A / 400 V </p> <p> Han® K 6/12 40 A / 690 V 10 A / 230/400 V </p> <p> Han® K 6/36 40 A / 690 V 10 A / 160 V </p> <p> Han® K 12/2 40 A / 690 V 10 A / 250 V </p>
24 B	   <p> Han® K 4/8 80 A / 400 V 16 A / 400 V </p> <p> Han® K 6/6 100 A / 690 V 16 A / 400 V </p> <p> Han® K 8/0 100 A / 690 V </p>
32 B	suitable for 2 inserts of size 16 B
48 B	suitable for 2 inserts of size 24 B

Summary

Type	Technical characteristics								Suitable Hoods/ Housings
	Power area				Signal area				
	Number of contacts	A	V ~	Termination	Number of contacts	A	V ~	Termination	Size
Han® K 4/0	4+PE	80	830	screw	—	—	—	—	16 B, 32 B
Han® K 4/2	4+PE	80	830	screw	2	16	400	screw	16 B, 32 B
Han® K 4/4	4+PE	63	690	axial screw	4	16	250	cage clamp	10 B
Han® K 4/8	4+PE	80	400	screw	8	16	400	screw	24 B, 48 B
Han® K 6/6	6+PE	100	690	axial screw	6	16	400	screw	24 B, 48 B
Han® K 6/12	6+PE	40	690	axial screw	12	10	230/400	screw	16 B, 32 B
Han® K 6/36	6+PE	40	690	crimp	36	10	160	crimp	16 B, 32 B
Han® K 8/0	8+PE	100	690	axial screw	—	—	—	—	24 B, 48 B
Han® K 8/24	8+PE	16	230/400	crimp	24	10	160	crimp	10 B
Han® K 12/2	12+PE	40	690	crimp	2	10	250	crimp	16 B, 32 B

Han-Com

Type identification

Han® K 6/12

Han® Industrial connectors Han®
K Series Han® K / Han-Com®
6 Number of power contacts
12 Number of signal contacts

Identification of contact position

Han® K connectors from 1 to ... (power area)
from 11 to... (signal area)

Exceptions
Han® K 4/8 and Han® K 8/24 from 1 to ... (consecutively)
Han® K 12/2 from 1 to 12 (power area)
with „a“ and „b“ (signal area)

Comment for users

For the combination of several circuits in one cable and/or e.g. one connector the following standards are valid:
DIN VDE 0100-410/06.2007 § 411.3.1.1 and DIN EN 60 204/06.2007 § 13.1.3

Accessories

Crimping tools chapter 90
Cable clamps chapter 80
Coding of hoods/housings chapter 80
Label acc. to CSA-approval chapter 80
Han-Snap® chapter 11
PCB adapter chapter 80

Description

Depiction

Dimensions in mm

Step 1:

Signal contacts:
Strip insulation from the wire with a length and insert the wire into the rectangular contact chamber.

Power contacts:
Strip insulation from the wire with a length and insert the wire into the contact chamber until insulation is flush with contact. Do not twist the strands of the wire.

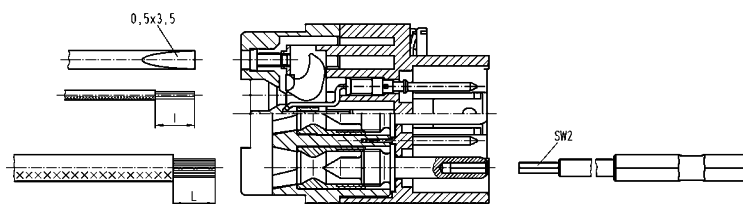
Step 2:

Signal contacts:
Tighten screw termination with screwdriver (0.5 x 3.5) with a tightening torque.

Power contacts:
Hold the wire in position and tighten by a hexagonal driver (SW 2) from the mating side with a tightening torque.

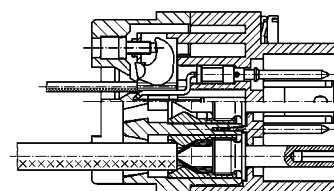
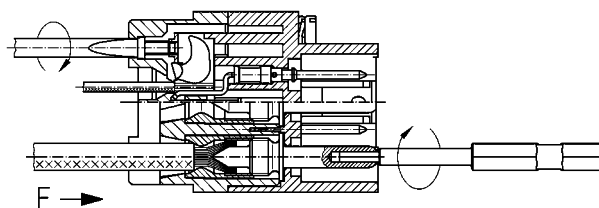
Step 3:

Complete connection



I: Stripping length for signal contacts

L: Stripping length for power contacts



Description

Depiction

Dimensions in mm

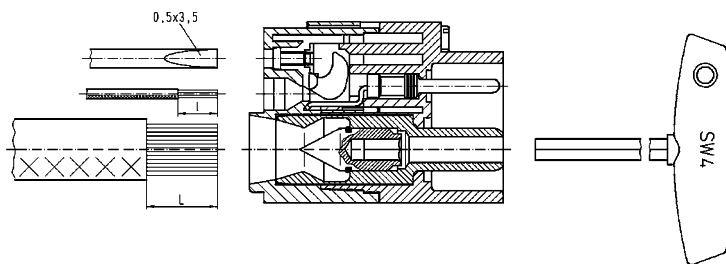
Step 1:

Signal contacts:

Strip insulation from the wire with a length and insert the wire into the rectangular contact chamber.

Power contacts:

Strip insulation from the wire with a length and insert the wire into the contact chamber until insulation is flush with contact. Do not twist the strands of the wire.



I: Stripping length for signal contacts

L: Stripping length for power contacts

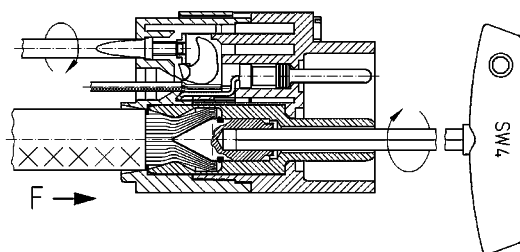
Step 2:

Signal contacts:

Tighten screw termination with screwdriver (0.5 x 3.5) with a tightening torque.

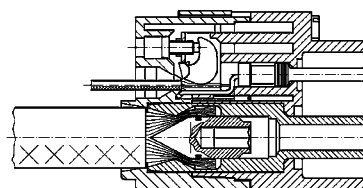
Power contacts:

Hold the wire in position and tighten by a hexagonal driver (SW 4) from the mating side with a tightening torque.



Step 3:

Complete connection

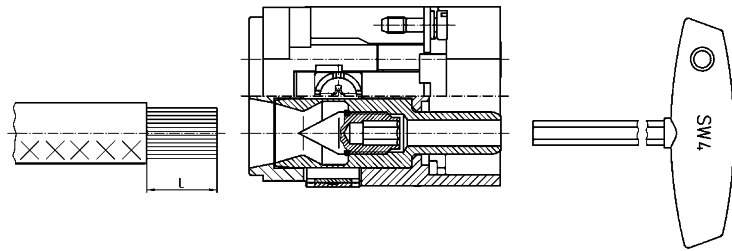


Description

Depiction

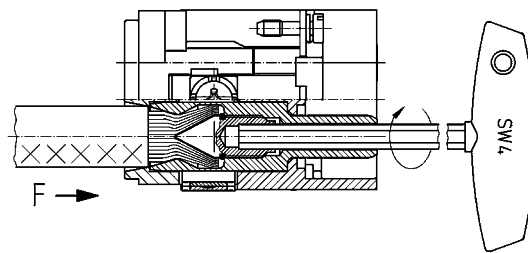
Dimensions in mm

Step 1:
Strip insulation from the wire with a length and insert the wire into the contact chamber until insulation is flush with contact. Do not twist the strands of the wire.

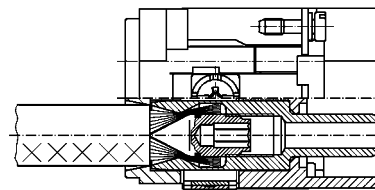


L: Stripping length for power contacts

Step 2:
Hold the wire in position and tighten by a hexagonal driver (SW 4) from the mating side with a tightening torque.



Step 3:
Complete connection



Features

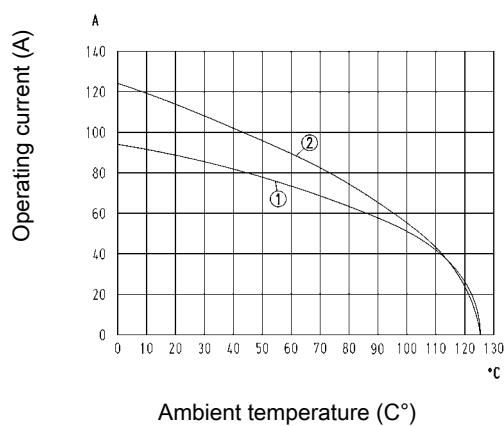
- Combination of power and signal area in one connector
- Axial screw termination for power area
- Cage clamp termination for signal area
- Same range of wire cross section for PE contacts and power contacts

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 16 mm²
 ② Wire cross section 22 mm²

Technical characteristics

Contacts	4/4
Electrical data acc. to IEC 61984	63 A 690 V 8 kV 3
Rated current	63 A
Rated voltage	690 V
Rated impulse voltage	8 kV
Pollution degree	3
Electrical data, signal	16 A 250 V 4 kV 3
Rated current	16 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Rated voltage acc. to UL	600 V
Rated voltage acc. to UL, signal	230 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Material (contact, signal area)	copper alloy
Hex key	SW 2.5

Specifications and approvals

IEC 60664-1
 IEC 61984



Details

Hoods/Housings see chapter 31

Hex key 09 99 000 0375 see chapter 90

Remarks on the axial screw technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Features

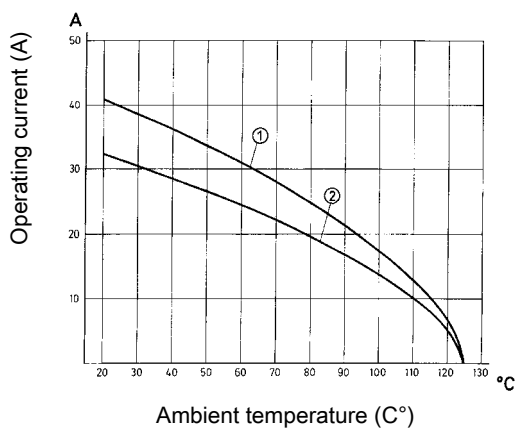
- Combination of power and signal area in one connector
- Crimp termination for power and signal area
- Use of standard Han E® and Han D® contacts

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 4 mm²
 ② Wire cross section 2.5 mm²

Technical characteristics

Contacts	8/24
Electrical data acc. to IEC 61984	16 A 230/400 V 4 kV 3
Rated current	16 A
Rated voltage conductor - ground	230 V
Rated voltage conductor - conductor	400 V
Rated impulse voltage	4 kV
Pollution degree	3
Electrical data, signal	10 A 160 V 2.5 kV 3
Rated current	10 A
Rated voltage	160 V
Rated impulse voltage	2.5 kV
Rated voltage acc. to UL	600 V
Rated voltage acc. to UL, signal	600 V
Rated voltage acc. to CSA	300 V
Rated voltage acc. to CSA, signal	300 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	HB
Mating cycles	≥500
Material (insert)	polyamide
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Material (contact, signal area)	copper alloy

Specifications and approvals

IEC 60664-1
 IEC 61984



Details

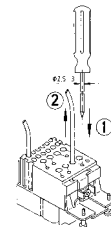
Hoods/Housings see chapter 31

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Removal of power contacts (Han E®)


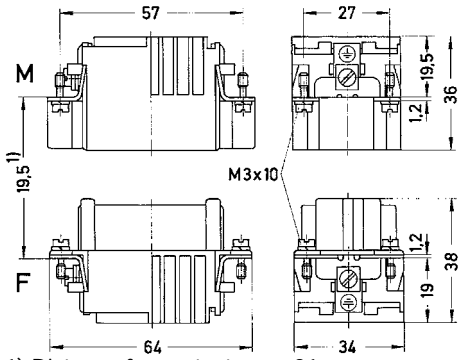
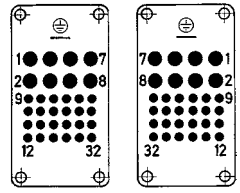

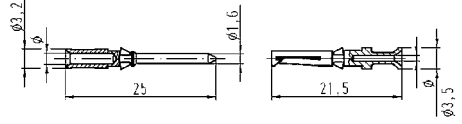

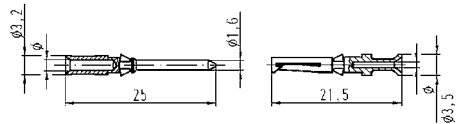


- ① Push cross-slotted screw driver (size 0) in the relevant hole of the contact until it reaches the bottom
- ② Withdraw the crimped contact from the insert

Number of contacts


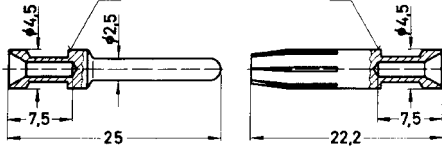

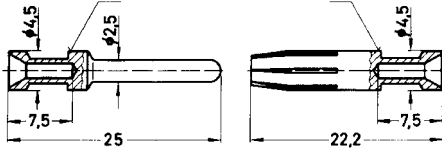

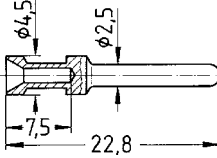


8/24+

230/400 V / 160 V
16 A/10 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																					
		male	female																						
<p>Han-Com®, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 38 032 3001	09 38 032 3101	 <p>1) Distance for contact max. 21 mm</p>  <p>Contact arrangement (view from termination side)</p>																					
<p>Han D®, Crimp contact, gold plated contacts, contact resistance ≤3 mOhm</p> 	0.14–0.37 0.5 0.75 1 1.5 2.5	09 15 000 6124 09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121 09 15 000 6126	09 15 000 6224 09 15 000 6223 09 15 000 6225 09 15 000 6222 09 15 000 6221 09 15 000 6226	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
Wire gauge	∅	Stripping length																							
0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																							
0.5 mm ² AWG 20	1.1 mm	8 mm																							
0.75 mm ² AWG 18	1.3 mm	8 mm																							
1 mm ² AWG 18	1.45 mm	8 mm																							
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							
<p>Han D®, Crimp contact, silver plated contacts, contact resistance ≤3 mOhm</p> 	0.14–0.37 0.5 0.75 1 1.5 2.5	09 15 000 6104 09 15 000 6103 09 15 000 6105 09 15 000 6102 09 15 000 6101 09 15 000 6106	09 15 000 6204 09 15 000 6203 09 15 000 6205 09 15 000 6202 09 15 000 6201 09 15 000 6206	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
Wire gauge	∅	Stripping length																							
0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																							
0.5 mm ² AWG 20	1.1 mm	8 mm																							
0.75 mm ² AWG 18	1.3 mm	8 mm																							
1 mm ² AWG 18	1.45 mm	8 mm																							
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							

Han-Com

Han-Com

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han E®, Crimp contact, gold plated contacts, contact resistance ≤1 mOhm 	0.5	09 33 000 6122	09 33 000 6222	
	0.75	09 33 000 6115	09 33 000 6215	
	1	09 33 000 6118	09 33 000 6218	
	1.5	09 33 000 6116	09 33 000 6216	
	2.5	09 33 000 6123	09 33 000 6223	
	4	09 33 000 6119	09 33 000 6221	
Han E®, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm 	0.5	09 33 000 6121	09 33 000 6220	
	0.75	09 33 000 6114	09 33 000 6214	
	1	09 33 000 6105	09 33 000 6205	
	1.5	09 33 000 6104	09 33 000 6204	
	2.5	09 33 000 6102	09 33 000 6202	
	4	09 33 000 6107	09 33 000 6207	
Han E®, Relay contact, silver plated contacts, contact resistance ≤1 mOhm 	0.75 – 1	09 33 000 6109		
	1.5	09 33 000 6110		
	2.5	09 33 000 6111		
F.O. contact for 1 mm plastic fibre 		20 10 001 3211	20 10 001 3221	

Identification	Wire gauge	Stripping length
no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm
no groove	0.5 mm ² AWG 20	7.5 mm
1 groove*	0.75 mm ² AWG 18	7.5 mm
1 groove	1 mm ² AWG 18	7.5 mm
2 grooves	1.5 mm ² AWG 16	7.5 mm
3 grooves	2.5 mm ² AWG 14	7.5 mm
wide groove	3 mm ² AWG 12	7.5 mm
no groove	4 mm ² AWG 12	7.5 mm

* on the back crimp collar

Identification	Wire gauge	Stripping length
no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm
no groove	0.5 mm ² AWG 20	7.5 mm
1 groove*	0.75 mm ² AWG 18	7.5 mm
1 groove	1 mm ² AWG 18	7.5 mm
2 grooves	1.5 mm ² AWG 16	7.5 mm
3 grooves	2.5 mm ² AWG 14	7.5 mm
wide groove	3 mm ² AWG 12	7.5 mm
no groove	4 mm ² AWG 12	7.5 mm

* on the back crimp collar

Stripping length 7.5 mm

20 10 001 3211 + 20 10 001 3221

Features

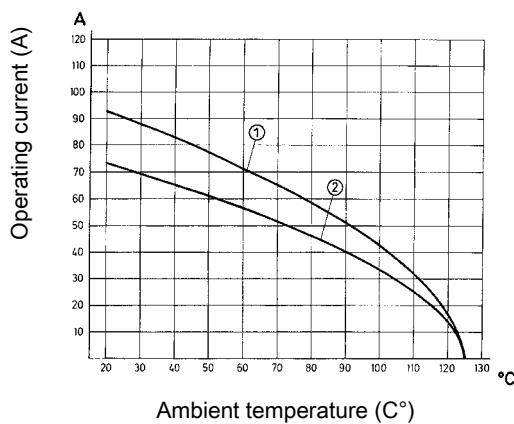
- Screw terminal
- No signal contacts

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 16 mm²
- ② Wire cross section 10 mm²

Technical characteristics

Contacts	4/0
Electrical data acc. to IEC 61984	80 A 830 V 8 kV 3
Rated current	80 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	300 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	<500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Hoods/Housings see chapter 31

In accordance with the appropriate regulations a wire-end sleeve has to be used at clamps without wire protection (see "screw terminal", chapter 00).

Features

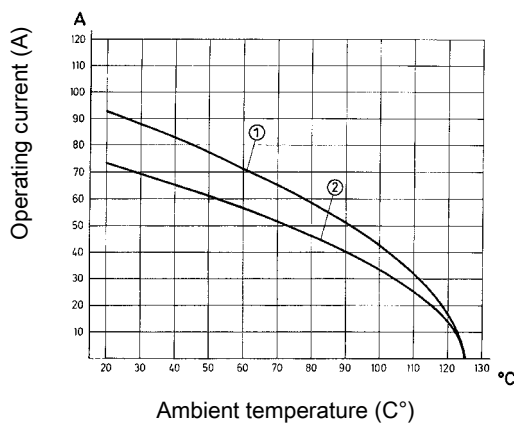
- Combination of power and signal area in one connector
- Screw termination for power and signal area

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 16 mm²
 ② Wire cross section 10 mm²

Technical characteristics

Contacts	4/2
Electrical data acc. to IEC 61984	80 A 830 V 8 kV 3
Rated current	80 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3
Electrical data, signal	16 A 400 V 6 kV 3
Rated current	16 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Rated voltage acc. to UL	600 V
Rated voltage acc. to UL, signal	600 V
Rated voltage acc. to CSA	300 V
Rated voltage acc. to CSA, signal	300 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Material (contact, signal area)	copper alloy

Specifications and approvals

IEC 60664-1
 IEC 61984



Details

Hoods/Housings see chapter 31


In accordance with the appropriate regulations a wire-end sleeve has to be used at clamps without wire protection (see "screw terminal", chapter 00).

Number of contacts

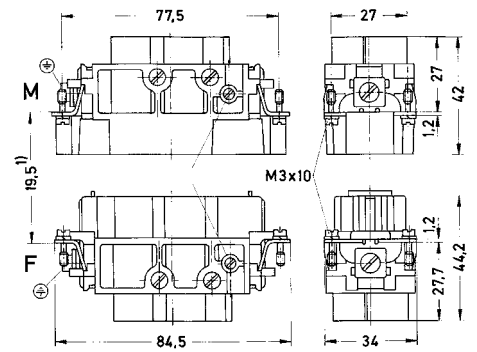
4/2+

830 V / 400 V
80 A/16 A

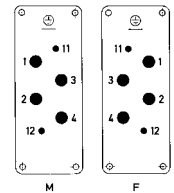
Han-Com

Identification	Wire cross section (mm ²)	Part number	
		male	female
Han-Com®, Screw terminal / Screw terminal, silver plated contacts, contact resistance ≤0.3 mOhm contact resistance, signal ≤1 mOhm 	1.5 – 16	09 38 006 2601	09 38 006 2701

Drawing
Dimensions in mm



1) Distance for contact max. 21 mm



Contact arrangement (view from termination side)

power contacts		
wire gauge	tightening torque	stripping length
1.5 mm ²	1.2 Nm	14 mm
2.5 mm ²	2 Nm	14 mm
4 mm ²	3 Nm	14 mm
6 mm ²	3 Nm	14 mm
10 mm ²	3 Nm	14 mm
16 mm ²	3 Nm	14 mm

Signal contacts :
Wire cross section 0.5 ... 2.5 mm²
Stripping length 7.5 mm

Features

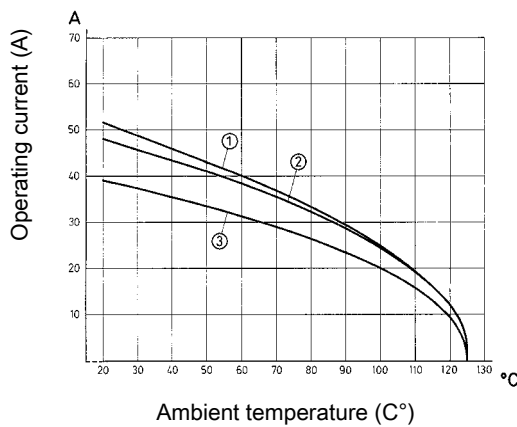
- Combination of power and signal area in one connector
- Axial screw termination for power area
- Screw termination for signal area

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 10 mm²
- ② Wire cross section 6 mm²
- ③ Wire cross section 4 mm²

Technical characteristics

Contacts	6/12
Electrical data acc. to IEC 61984	40 A 690 V 8 kV 3
Rated current	40 A
Rated voltage	690 V
Rated impulse voltage	8 kV
Pollution degree	3
Electrical data, signal	10 A 230/400 V 4 kV 3
Rated current	10 A
Rated voltage conductor - ground	230 V
Rated voltage conductor - conductor	400 V
Rated impulse voltage	4 kV
Rated voltage acc. to UL	600 V
Rated voltage acc. to UL, signal	600 V
Rated voltage acc. to CSA	300 V
Rated voltage acc. to CSA, signal	300 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Material (contact, signal area)	copper alloy
Hex key	SW 2

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Hoods/Housings see chapter 31

Hex key adapter 1/4" 09 99 000 0369 see chapter 90

Remarks on the axial screw technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

6/12+

690 V / 230/400 V
40 A/10 A

Han-Com

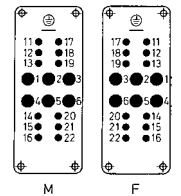
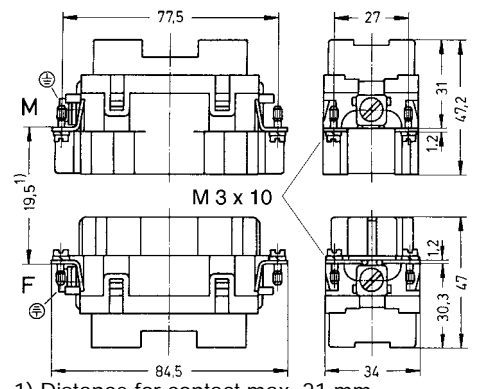
Han-Com®, Axial screw terminal / Screw terminal, silver plated contacts, contact resistance ≤0.5 mOhm contact resistance, signal ≤3 mOhm



Wire cross section (mm²) Part number male female

2.5-8 09 38 018 2601 09 38 018 2701
6-10 09 38 018 2602 09 38 018 2702

Drawing Dimensions in mm



Contact arrangement (view from termination side)

power contacts			
wire gauge	tightening torque	stripping length	max. insulation diameter
2.5 mm²	1.5 Nm	8 ... 9 mm	6.1 mm
4 mm²	1.5 Nm	8 ... 9 mm	6.1 mm
6 mm²	2 Nm	8 ... 9 mm	6.1 mm
10 mm²	2 Nm	8 ... 9 mm	6.1 mm

Signal contacts :
Wire cross section 0.2 ... 2.5 mm²
Stripping length 7.5 mm

Features

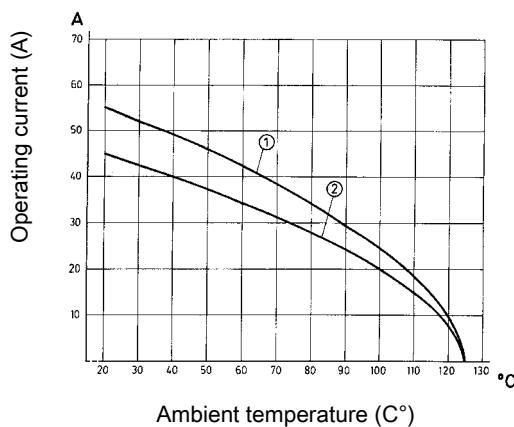
- Combination of power and signal area in one connector
- Crimp termination for power and signal area
- Use of standard Han® C and Han D® contacts

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 6 mm²
 ② Wire cross section 4 mm²

Technical characteristics

Contacts	6/36
Electrical data acc. to IEC 61984	40 A 690 V 8 kV 3
Rated current	40 A
Rated voltage	690 V
Rated impulse voltage	8 kV
Pollution degree	3
Electrical data, signal	10 A 160 V 2.5 kV 3
Rated current	10 A
Rated voltage	160 V
Rated impulse voltage	2.5 kV
Rated voltage acc. to UL	600 V
Rated voltage acc. to UL, signal	600 V
Rated voltage acc. to CSA	300 V
Rated voltage acc. to CSA, signal	300 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Material (contact, signal area)	copper alloy

Specifications and approvals

IEC 60664-1
 IEC 61984



Details

Hoods/Housings see chapter 31

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

6/36+

690 V / 160 V
40 A/10 A

Han-Com

Han-Com®, Crimp/crimp terminal



Please order crimp contacts separately.

Wire cross section (mm²)

Part number

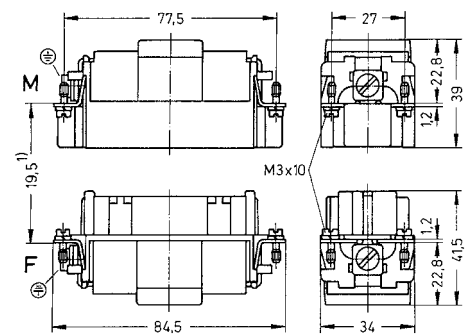
male

female

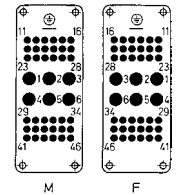
Drawing Dimensions in mm

09 38 042 3001

09 38 042 3101



1) Distance for contact max. 21 mm
Max. insulation diameter 5 mm



Contact arrangement (view from termination side)

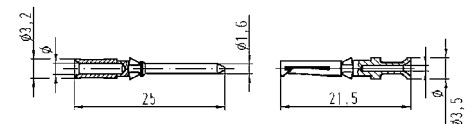
Han D®, Crimp contact, gold plated contacts, contact resistance ≤3 mOhm



0.14–0.37
0.5
0.75
1
1.5
2.5

09 15 000 6124
09 15 000 6123
09 15 000 6125
09 15 000 6122
09 15 000 6121
09 15 000 6126

09 15 000 6224
09 15 000 6223
09 15 000 6225
09 15 000 6222
09 15 000 6221
09 15 000 6226



Wire gauge	∅	Stripping length
0.14-0.37 mm² AWG 26-22	0.9 mm	8 mm
0.5 mm² AWG 20	1.1 mm	8 mm
0.75 mm² AWG 18	1.3 mm	8 mm
1 mm² AWG 18	1.45 mm	8 mm
1.5 mm² AWG 16	1.75 mm	8 mm
2.5 mm² AWG 14	2.25 mm	6 mm

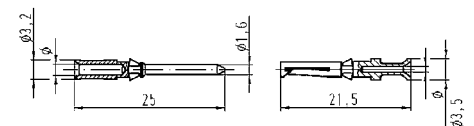
Han D®, Crimp contact, silver plated contacts, contact resistance ≤3 mOhm




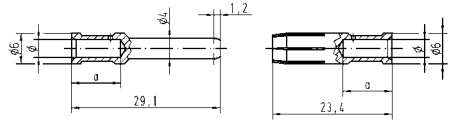

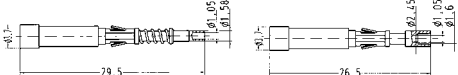
0.14–0.37
0.5
0.75
1
1.5
2.5

09 15 000 6104
09 15 000 6103
09 15 000 6105
09 15 000 6102
09 15 000 6101
09 15 000 6106

09 15 000 6204
09 15 000 6203
09 15 000 6205
09 15 000 6202
09 15 000 6201
09 15 000 6206



Wire gauge	∅	Stripping length
0.14-0.37 mm² AWG 26-22	0.9 mm	8 mm
0.5 mm² AWG 20	1.1 mm	8 mm
0.75 mm² AWG 18	1.3 mm	8 mm
1 mm² AWG 18	1.45 mm	8 mm
1.5 mm² AWG 16	1.75 mm	8 mm
2.5 mm² AWG 14	2.25 mm	6 mm

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																		
		male	female																			
Han® C, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm 	1.5	09 32 000 6104	09 32 000 6204	 <table border="1" data-bbox="1038 501 1497 636"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>1.5 mm² AWG 16</td> <td>1.75</td> <td>9.5 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25</td> <td>9.5 mm</td> </tr> <tr> <td>4 mm² AWG 12</td> <td>2.85</td> <td>9.5 mm</td> </tr> <tr> <td>6 mm² AWG 10</td> <td>3.5</td> <td>9.5 mm</td> </tr> <tr> <td>10 mm² AWG 8</td> <td>4.3</td> <td>12 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	1.5 mm ² AWG 16	1.75	9.5 mm	2.5 mm ² AWG 14	2.25	9.5 mm	4 mm ² AWG 12	2.85	9.5 mm	6 mm ² AWG 10	3.5	9.5 mm	10 mm ² AWG 8	4.3	12 mm
	Wire gauge	∅	Stripping length																			
	1.5 mm ² AWG 16	1.75	9.5 mm																			
	2.5 mm ² AWG 14	2.25	9.5 mm																			
4 mm ² AWG 12	2.85	9.5 mm																				
6 mm ² AWG 10	3.5	9.5 mm																				
10 mm ² AWG 8	4.3	12 mm																				
2.5	09 32 000 6105	09 32 000 6205																				
4	09 32 000 6107	09 32 000 6207																				
6	09 32 000 6108	09 32 000 6208																				
F.O. contact  for 1 mm plastic fibre		20 10 001 3211	20 10 001 3221	 20 10 001 3211 + 20 10 001 3221																		

Han-Com

Features

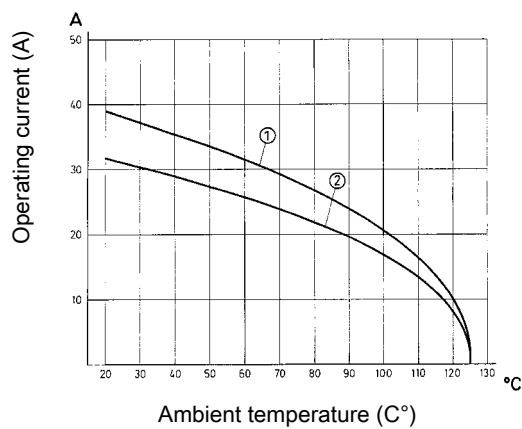
- Combination of power and signal area in one connector
- Crimp termination for power and signal area
- Use of standard Han® C and Han D® contacts

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 6 mm²
 ② Wire cross section 4 mm²

Technical characteristics

Contacts	12/2
Electrical data acc. to IEC 61984	40 A 690 V 8 kV 3
Rated current	40 A
Rated voltage	690 V
Rated impulse voltage	8 kV
Pollution degree	3
Electrical data, signal	10 A 250 V 4 kV 3
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Rated voltage acc. to UL	600 V
Rated voltage acc. to UL, signal	600 V
Rated voltage acc. to CSA	300 V
Rated voltage acc. to CSA, signal	300 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Material (contact, signal area)	copper alloy

Specifications and approvals

IEC 60664-1
 IEC 61984



Details

Hoods/Housings see chapter 31

Crimping tools see chapter 90


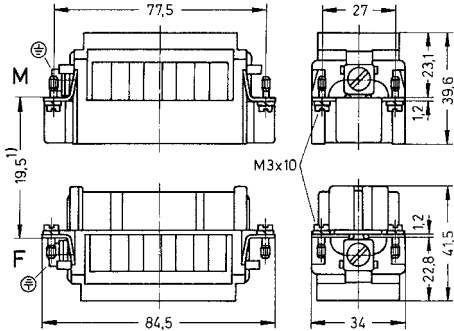
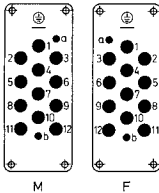

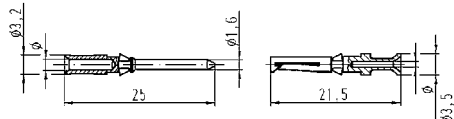

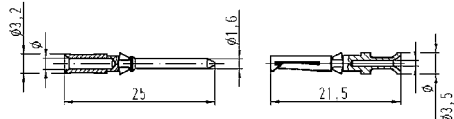
Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.


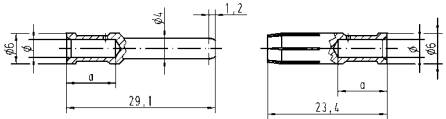

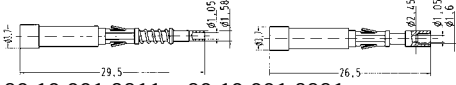
Number of contacts

12/2+

690 V / 250 V
40 A/10 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																					
		male	female																						
<p>Han-Com®, Crimp/crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 32 012 3001	09 32 012 3101	 <p>1) Distance for contact max. 21 mm Max. insulation diameter 5 mm</p>  <p>Contact arrangement (view from termination side)</p>																					
<p>Han D®, Crimp contact, gold plated contacts, contact resistance ≤3 mOhm</p> 	0.14–0.37 0.5 0.75 1 1.5 2.5	09 15 000 6124 09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121 09 15 000 6126	09 15 000 6224 09 15 000 6223 09 15 000 6225 09 15 000 6222 09 15 000 6221 09 15 000 6226	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
Wire gauge	∅	Stripping length																							
0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																							
0.5 mm ² AWG 20	1.1 mm	8 mm																							
0.75 mm ² AWG 18	1.3 mm	8 mm																							
1 mm ² AWG 18	1.45 mm	8 mm																							
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							
<p>Han D®, Crimp contact, silver plated contacts, contact resistance ≤3 mOhm</p> 	0.14–0.37 0.5 0.75 1 1.5 2.5	09 15 000 6104 09 15 000 6103 09 15 000 6105 09 15 000 6102 09 15 000 6101 09 15 000 6106	09 15 000 6204 09 15 000 6203 09 15 000 6205 09 15 000 6202 09 15 000 6201 09 15 000 6206	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
Wire gauge	∅	Stripping length																							
0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																							
0.5 mm ² AWG 20	1.1 mm	8 mm																							
0.75 mm ² AWG 18	1.3 mm	8 mm																							
1 mm ² AWG 18	1.45 mm	8 mm																							
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							

Han-Com

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																		
		male	female																			
Han® C, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm 	1.5	09 32 000 6104	09 32 000 6204	 <table border="1" data-bbox="1008 501 1465 636"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>1.5 mm² AWG 16</td> <td>1.75</td> <td>9.5 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25</td> <td>9.5 mm</td> </tr> <tr> <td>4 mm² AWG 12</td> <td>2.85</td> <td>9.5 mm</td> </tr> <tr> <td>6 mm² AWG 10</td> <td>3.5</td> <td>9.5 mm</td> </tr> <tr> <td>10 mm² AWG 8</td> <td>4.3</td> <td>12 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	1.5 mm ² AWG 16	1.75	9.5 mm	2.5 mm ² AWG 14	2.25	9.5 mm	4 mm ² AWG 12	2.85	9.5 mm	6 mm ² AWG 10	3.5	9.5 mm	10 mm ² AWG 8	4.3	12 mm
	Wire gauge	∅	Stripping length																			
	1.5 mm ² AWG 16	1.75	9.5 mm																			
	2.5 mm ² AWG 14	2.25	9.5 mm																			
4 mm ² AWG 12	2.85	9.5 mm																				
6 mm ² AWG 10	3.5	9.5 mm																				
10 mm ² AWG 8	4.3	12 mm																				
2.5	09 32 000 6105	09 32 000 6205																				
4	09 32 000 6107	09 32 000 6207																				
6	09 32 000 6108	09 32 000 6208																				
F.O. contact  for 1 mm plastic fibre		20 10 001 3211	20 10 001 3221	 <p>20 10 001 3211 + 20 10 001 3221</p>																		

Han-Com

Features

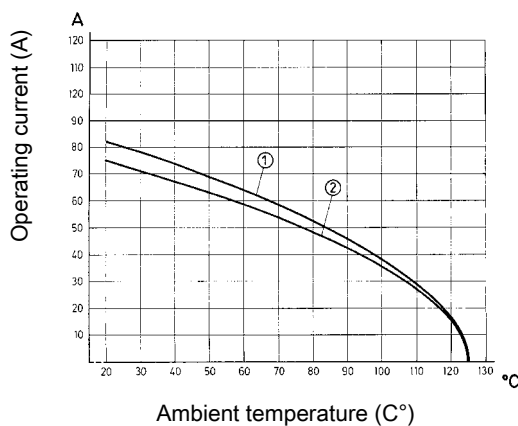
- Combination of power and signal area in one connector
- Screw termination for power and signal area

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 16 mm²
 ② Wire cross section 10 mm²

Technical characteristics

Contacts	4/8
Electrical data acc. to IEC 61984	80 A 400 V 6 kV 3
Rated current	80 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Pollution degree	3
Electrical data, signal	16 A 400 V 6 kV 3
Rated current	16 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Rated voltage acc. to UL	600 V
Rated voltage acc. to UL, signal	600 V
Rated voltage acc. to CSA	600 V
Rated voltage acc. to CSA, signal	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	HB
Mating cycles	≥500
Material (insert)	polyamide
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Material (contact, signal area)	copper alloy

Specifications and approvals

IEC 60664-1
 IEC 61984



Details

Hoods/Housings see chapter 31

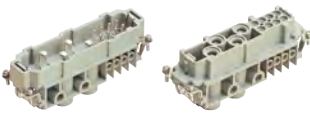
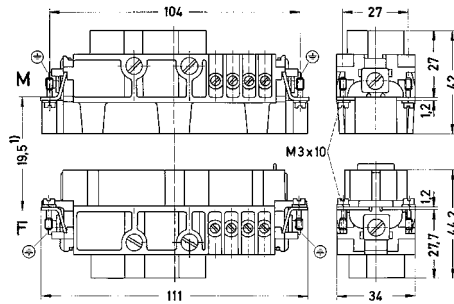
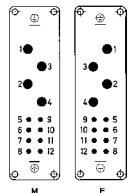
In accordance with the appropriate regulations a wire-end sleeve has to be used at clamps without wire protection (see "screw terminal", chapter 00).

Number of contacts

4/8+

400 V / 400 V
80 A/16 A

Han-Com

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																								
		male	female																									
Han-Com®, Screw terminal / Screw terminal, silver plated contacts, contact resistance ≤0.3 mOhm contact resistance, signal ≤1 mOhm 	1.5 – 16	09 38 012 2601	09 38 012 2701	 <p>1) Distance for contact max. 21 mm</p>  <p>Contact arrangement (view from termination side)</p> <table border="1"> <thead> <tr> <th colspan="3">power contacts</th> </tr> <tr> <th>wire gauge</th> <th>tightening torque</th> <th>stripping length</th> </tr> </thead> <tbody> <tr> <td>1.5 mm²</td> <td>1.2 Nm</td> <td>14 mm</td> </tr> <tr> <td>2.5 mm²</td> <td>2 Nm</td> <td>14 mm</td> </tr> <tr> <td>4 mm²</td> <td>3 Nm</td> <td>14 mm</td> </tr> <tr> <td>6 mm²</td> <td>3 Nm</td> <td>14 mm</td> </tr> <tr> <td>10 mm²</td> <td>3 Nm</td> <td>14 mm</td> </tr> <tr> <td>16 mm²</td> <td>3 Nm</td> <td>14 mm</td> </tr> </tbody> </table> <p>Signal contacts : Wire cross section 0.5 ... 2.5 mm² Stripping length 7.5 mm</p>	power contacts			wire gauge	tightening torque	stripping length	1.5 mm ²	1.2 Nm	14 mm	2.5 mm ²	2 Nm	14 mm	4 mm ²	3 Nm	14 mm	6 mm ²	3 Nm	14 mm	10 mm ²	3 Nm	14 mm	16 mm ²	3 Nm	14 mm
power contacts																												
wire gauge	tightening torque	stripping length																										
1.5 mm ²	1.2 Nm	14 mm																										
2.5 mm ²	2 Nm	14 mm																										
4 mm ²	3 Nm	14 mm																										
6 mm ²	3 Nm	14 mm																										
10 mm ²	3 Nm	14 mm																										
16 mm ²	3 Nm	14 mm																										

Features

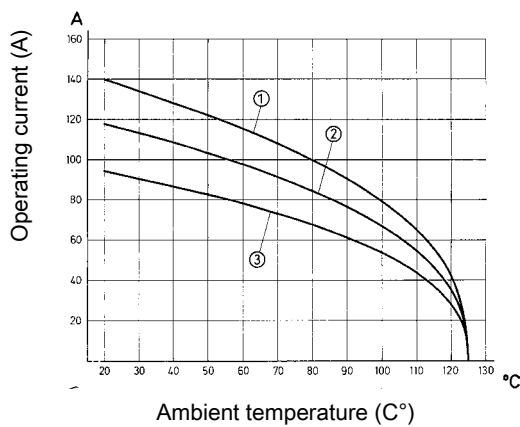
- Combination of power and signal area in one connector
- Axial screw termination for power area
- Screw termination for signal area

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 35 mm²
 ② Wire cross section 25 mm²
 ③ Wire cross section 16 mm²

Technical characteristics

Contacts	6/6
Electrical data acc. to IEC 61984	100 A 690 V 8 kV 3
Rated current	100 A
Rated voltage	690 V
Rated impulse voltage	8 kV
Pollution degree	3
Electrical data, signal	16 A 400 V 6 kV 3
Rated current	16 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Rated current acc. to CSA	100 A
Rated current acc. to CSA, signal area	15 A
Rated voltage acc. to UL	600 V
Rated voltage acc. to UL, signal	300 V
Rated voltage acc. to CSA	600 V
Rated voltage acc. to CSA, signal	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Material (contact, signal area)	copper alloy
Hex key	SW 4

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Hoods/Housings see chapter 31

Hex key with grip 09 99 000 0363 see chapter 90

Adapter 3/8" 09 99 000 0370 see chapter 90

Remarks on the axial screw technique


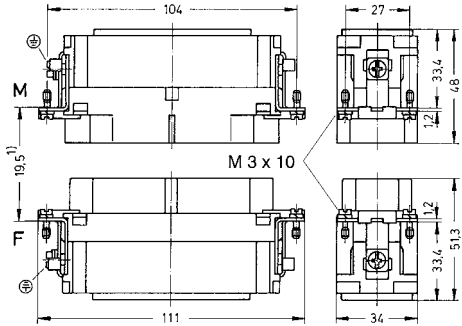
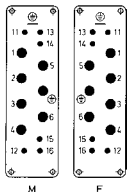
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

6/6+

690 V / 400 V
100 A/16 A

Han-Com

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																				
		male	female																					
Han-Com®, Axial screw terminal / Screw terminal, silver plated contacts, contact resistance ≤0.5 mOhm contact resistance, signal ≤3 mOhm 	16 – 35	09 38 012 2651	09 38 012 2751	 <p>1) Distance for contact max. 21 mm</p>  <p>11 13 14 15 16 1 2 3 4 5 6 12</p> <p>M F</p> <p>Contact arrangement (view from termination side)</p> <table border="1"> <thead> <tr> <th colspan="4">power contacts</th> </tr> <tr> <th>wire gauge</th> <th>tightening torque</th> <th>stripping length</th> <th>max. insulation diameter</th> </tr> </thead> <tbody> <tr> <td>10 mm²</td> <td>6 Nm</td> <td>13 ... 14 mm</td> <td>11.4 mm</td> </tr> <tr> <td>25 mm²</td> <td>7 Nm</td> <td>13 ... 14 mm</td> <td>11.4 mm</td> </tr> <tr> <td>35 mm²</td> <td>8 Nm</td> <td>13 ... 14 mm</td> <td>11.4 mm</td> </tr> </tbody> </table> <p>Signal contacts : Wire cross section 0.2 ... 2.5 mm² Stripping length 7.5 mm</p>	power contacts				wire gauge	tightening torque	stripping length	max. insulation diameter	10 mm ²	6 Nm	13 ... 14 mm	11.4 mm	25 mm ²	7 Nm	13 ... 14 mm	11.4 mm	35 mm ²	8 Nm	13 ... 14 mm	11.4 mm
power contacts																								
wire gauge	tightening torque	stripping length	max. insulation diameter																					
10 mm ²	6 Nm	13 ... 14 mm	11.4 mm																					
25 mm ²	7 Nm	13 ... 14 mm	11.4 mm																					
35 mm ²	8 Nm	13 ... 14 mm	11.4 mm																					

Features

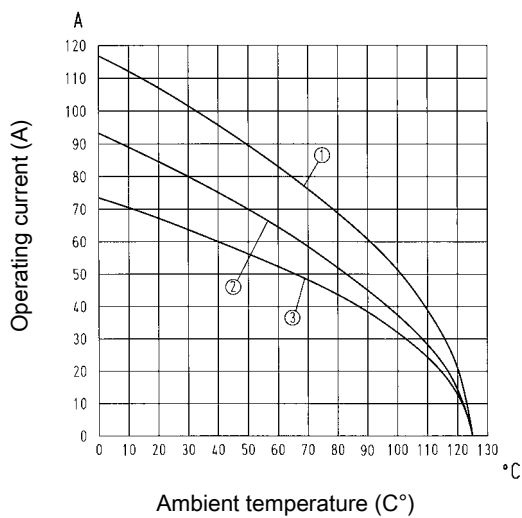
- Axial screw termination for power area
- No signal contacts

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 25 mm²
- ② Wire cross section 16 mm²
- ③ Wire cross section 10 mm²

Technical characteristics

Contacts	8/0
Electrical data acc. to IEC 61984	100 A 690 V 8 kV 3
Rated current	100 A
Rated voltage	690 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated current acc. to UL	82 A
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Hex key	SW 4

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Hoods/Housings see chapter 31

Hex key with grip 09 99 000 0363 see chapter 90

Adapter 3/8" 09 99 000 0370 see chapter 90

Remarks on the axial screw technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

8/0+

690 V
100 A

Han-Com

Han-Com®, Axial screw terminal, silver plated contacts, contact resistance ≤0.5 mOhm



Wire cross section (mm²)

10 – 25

Part number

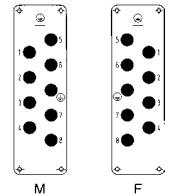
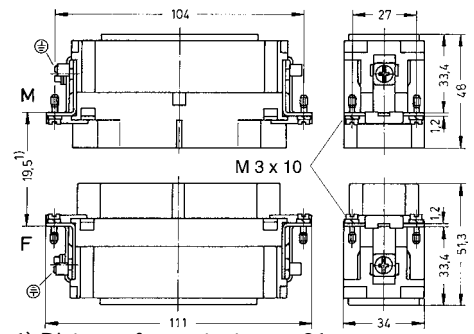
male

female

09 38 008 2653

09 38 008 2753

Drawing Dimensions in mm



Contact arrangement (view from termination side)

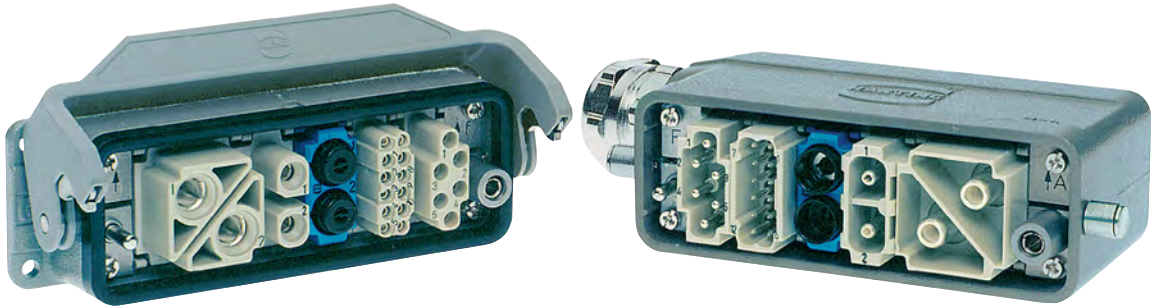
power contacts			
wire gauge	tightening torque	stripping length	max. insulation diameter
10 mm²	6 Nm	13 ... 14 mm	11.4 mm
16 mm²	7 Nm	13 ... 14 mm	11.4 mm
25 mm²	7 Nm	13 ... 14 mm	11.4 mm

Contents	Page
Han® 200 A module.....	06.7
Han® 100 A module.....	06.10
Han® 100 A Single module.....	06.12
Han® 70 A module.....	06.14
Han® 70 A Hybrid module	06.17
Han® 40 A module.....	06.19
Han® C module	06.21
Han® CC Protected module	06.23
Han® CD module	06.25
Han E® module	06.28
Han® E Screw module	06.31
Han E® Protected module.....	06.33
Han® EE module.....	06.36
Han® EEE module	06.39
Han® ES module.....	06.41
Han® HV module.....	06.43
Han® HV Single module.....	06.46
Han DD® module	06.48
Han® DDD module.....	06.51
Han® High Density module	06.53
Han® D-Sub module	06.55
Han® USB module	06.58
Han® FireWire module	06.60

Contents	Page
Han® RJ45 module, female	06.61
Han® RJ45 module, male	06.62
RJ45 patch cable.....	06.66
Han® GigaBit module.....	06.68
Han® Shielded module.....	06.70
Han® MegaBit module	06.72
Accessories for GigaBit, Shielded and MegaBit.....	06.75
Han-Quintax® module	06.77
Han-Quintax® High Density module.....	06.79
Han® D Coax	06.81
Han® E Coax.....	06.83
Han® Multi module	06.85
Han® Pneumatic module.....	06.89
Han® SC module.....	06.92
Han® LC module	06.94
Han-Modular® Hinged frames.....	06.96
Han-Modular® Docking frames	06.101
Han-Modular® Compact.....	06.105
Han-Modular® Twin	06.109
Han-Modular® ECO	06.112
Accessories	06.117

Han-Modular

Description of the Han-Modular® system



The Han-Modular® series is designed for combining different transmission media in one connector. The multifaceted system of inserts, contacts, frames, hoods and housings fulfils individual customer requirements. To continuously enable new configurations, the Han-Modular® series grows constantly.

More than 50 different modules for different transmission media are available. These cover various termination techniques. The patented Han-Modular® hinged frame enables the configuration of all modules in the well-accepted Han® hoods and housings size 6B-48B. Further additional solutions are available, e.g. suitable docking frames for drawer units.

Individual customer requirements can be realized. Combining various transmission media in one single connector results in lower expenditures in installation time and production downtime. Space savings and cost savings are further benefits. The easy extension possibilities secure a future safe design.

Product features at a glance

- Flexible solutions according to specific customer requirements
- Reduction of installation time and production downtimes
- Space savings
- Cost savings
- Future safe design, easy extension

Assembly details



Summary



















Series	Han® 200 A Axial module	Han® 200 A Crimp module	Han® 100 A Axial module	Han® 100 A Crimp module
Number of contacts	1	1	2	2
Modules	Axial screw terminal 	Crimp terminal 	Axial screw terminal 	Crimp terminal 
Rated current	200 A	200 A	100 A	100 A
Rated voltage	1000 V	1000 V	1000 V	1000 V
Wire gauge	25 ... 70 mm ²	25 ... 70 mm ²	10 ... 38 mm ²	10 ... 35 mm ²
Series	Han® 100 A Single module	Han® 70 A Axial module	Han® 70 A Crimp module	Han® 70 A Hybrid module
Number of contacts	1	2	2	1 / 4
Modules	Axial screw terminal 	Axial screw terminal 	Crimp terminal 	Axial screw terminal 
Rated current	100 A	70 A	70 A	70 A / 16 A
Rated voltage	830 V	1000 V	1000 V	1000 V / 400 V
Wire gauge	10 ... 35 mm ²	6 ... 22 mm ²	10 ... 25 mm ²	6 ... 22 mm ² / 0.14 ... 4 mm ²
Series	Han® 40 A Axial module	Han® 40 A Crimp module	Han® C Axial module	Han® C module
Number of contacts	2	2	3	3
Modules	Axial screw terminal 	Crimp terminal 	Axial screw terminal 	Crimp terminal 
Rated current	40 A	40 A	40 A	40 A
Rated voltage	1000 V	1000 V	690 V	690 V
Wire gauge	2.5 ... 10 mm ²	1.5 ... 10 mm ²	2.5 ... 10 mm ²	1.5 ... 10 mm ²
Series	Han® CC Protected module	Han® CD module	Han® E Quick Lock module	Han E® module
Number of contacts	4	3 / 4	6	6
Modules	Crimp terminal 	Crimp terminal 	Quick Lock terminal 	Crimp terminal 
Rated current	40 A	40 A / 10 A	16 A	16 A
Rated voltage	830 V	830 V / 830 V	500 V	500 V
Wire gauge	1.5 ... 6 mm ²	1.5 ... 6 mm ² / 0.14 ... 2.5 mm ²	0.5 ... 2.5 mm ²	0.14 ... 4 mm ²

Han-Modular

Summary



Series	Han E® Screw module	Han E® Protected module	Han® EE Quick Lock module	Han® EE module
Number of contacts	5	6	8	8
Modules	Screw terminal 	Crimp terminal 	Quick Lock terminal 	Crimp terminal 
Rated current	16 A	16 A	16 A	16 A
Rated voltage	230 / 400 V	830 V	400 V	400 V
Wire gauge	0.5 ... 2.5 mm ²	0.14 ... 4 mm ²	0.5 ... 2.5 mm ²	0.14 ... 4 mm ²
Series	Han® EEE module	Han® ES module	Han® HV Single module	Han® HV module
Number of contacts	20	5	2	2
Modules	Crimp terminal 	Cage-clamp terminal 	Crimp terminal 	Crimp terminal 
Rated current	16 A	16 A	16 A	16 A
Rated voltage	500 V	400 V	2500 V	2900 / 5000 V
Wire gauge	0.14 ... 4 mm ²	0.14 ... 2.5 mm ²	0.5 ... 4 mm ²	0.5 ... 4 mm ²
Series	Han® HV module	Han DD® Quick Lock module	Han DD® module	Han® DDD module
Number of contacts	2	12	12	17
Modules	Crimp terminal 	Quick Lock terminal 	Crimp terminal 	Crimp terminal 
Rated current	40 A	10 A	10 A	10 A
Rated voltage	2900 / 5000 V	250 V	250 V	160 V
Wire gauge	1.5 ... 10 mm ²	0.25 ... 1.5 mm ²	0.14 ... 2.5 mm ²	0.14 ... 2.5 mm ²
Series	Han® High Density module	Han® D-Sub module	Han® USB module	Han® FireWire module
Number of contacts	25	9	4	6
Modules	Crimp terminal 	Crimp terminal 	USB 2.0 	IEEE 1394 
Rated current	4 A	5 A		
Rated voltage	50 V	50 V		
Wire gauge	0.08 ... 0.52 mm ²	0.08 ... 0.52 mm ²		

Han-
Modular

Summary



Series	Han® RJ45 module	Han® GigaBit module	Han® MegaBit module	Han® Shielded module
Number of contacts	8	8	2 x 4	20
Modules	Ethernet Cat. 6	Ethernet Cat. 6A	Ethernet Cat. 5e	Crimp terminal

Han-Modular

Series	Han-Quintax® module			
Number of contacts	2			
Modules				
Contacts	<p>Han-Quintax® contact 4 + shielding</p>	<p>High Density Quintax contact 8 + shielding</p>	<p>Han D® Coax contact 1 + shielding 75 Ω</p>	<p>Han E® Coax contact 1 + shielding 50 Ω</p>

Series	Han® Multi module			
Number of contacts	4		12	
Modules				
Contacts	<p>FOC contacts</p> <p>Multimode F.O. HCS®* / PCF F.O. 1 mm POF</p>	<p>Coaxial contacts</p> <p>50 Ω RG 174 75 Ω RG 179 50 Ω RG 58</p>	<p>FOC contacts</p> <p>Multimode F.O. HCS®* / PCF F.O. 1 mm POF</p>	<p>Coaxial contacts</p> <p>50 Ω RG 174 75 Ω RG 179</p>

Series	Han® Pneumatic module		Han® SC module	Han® LC module	
Number of contacts	2	3	4	6	
Modules					
Contacts	<p>Ø 6.0 mm</p>	<p>Ø 1.6 mm Ø 3.0 mm Ø 4.0 mm</p>	<p>SC contact for GI 50; 62.5 / 125 μm</p>	<p>LC Contact for LWL Multi Mode LC Contact for LWL Single Mode</p>	

* HCS® = Hard Clad Silica (is registered trade mark of the SpecTran Corporation)

Features

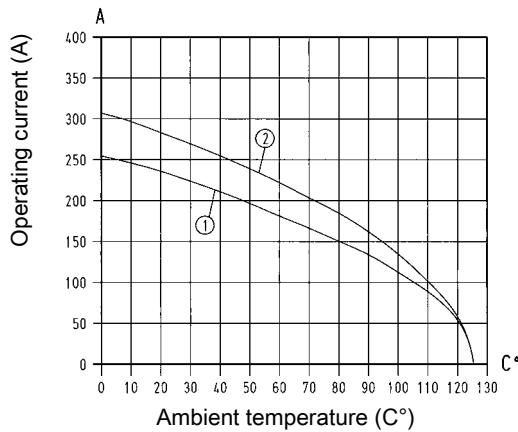
- Crimp- and Axial module are compatible modules
- Contacts can be unlocked from the mating side
- Power module for big wire cross sections up to 70mm²
- Suitable as a 3 + PE connector in a Han® 32 B housing

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① 24 B hoods/housings with 3 modules Wire cross section 50 mm²
 ② 24 B hoods/housings with 3 modules Wire cross section 70 mm²

Technical characteristics

Contacts	1
Electrical data acc. to IEC 61984	200 A 1000 V 8 kV 3
Rated current	200 A
Rated voltage	1000 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Hex key	SW 5

Specifications and approvals

EN 50124-1
 IEC 60664-1
 IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique

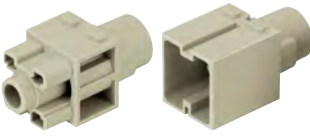
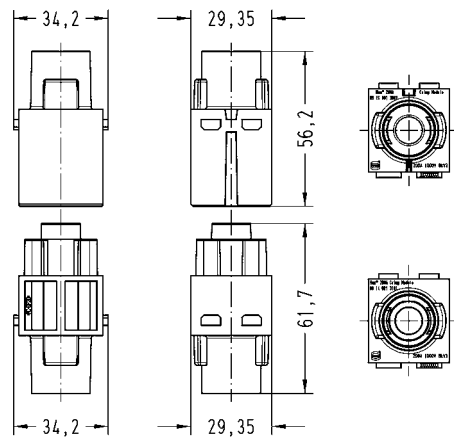

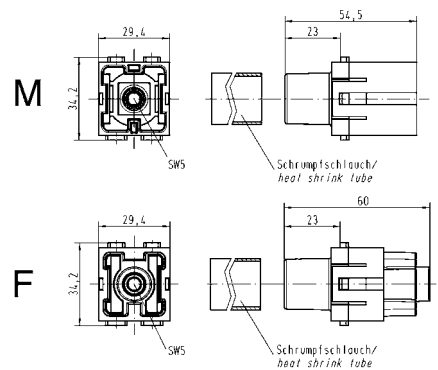
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

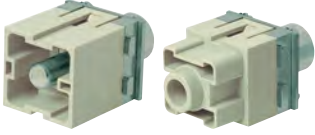
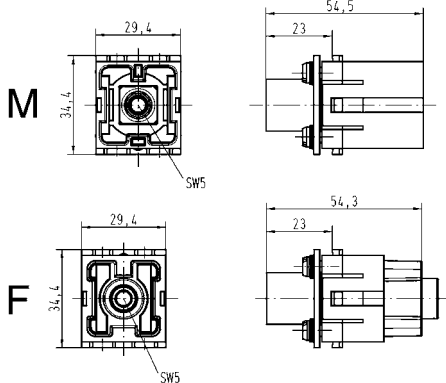

Number of contacts

1

1000 V
200 A

Han-
Modular

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p>Han-Modular®, Han® 200 A Crimp module, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 14 001 3001	09 14 001 3101	 <p>Removal tool 09 99 000 0820 see chapter 90</p>
<p>Han-Modular®, Han® 200 A Axial module, Axial screw terminal, silver plated contacts, contact resistance ca.0.2 mOhm</p> 	25 – 40 40 – 70	09 14 001 2663 09 14 001 2662	09 14 001 2763 09 14 001 2762	 <p>Hex key with grip 09 99 000 0364 adapter 3/8" 09 99 000 0371 see chapter 90 Stripping length 16 mm</p>

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm															
		male	female																
Han-Modular®, Han® 200 A PE module, Axial screw terminal, silver plated contacts, contact resistance ca.0.2 mOhm 	25 – 40 40 – 70	09 14 001 2668 09 14 001 2667	09 14 001 2768 09 14 001 2767	 <p> Hex key with grip 09 99 000 0364 adapter 3/8" 09 99 000 0371 see chapter 90 Stripping length 16 mm </p>															
Crimp contact, TC 200, silver plated contacts, ... 14 mm contact resistance ≤0.3 mOhm 	25 35 50 70	09 11 000 6120 09 11 000 6121 09 11 000 6122 09 11 000 6123	09 11 000 6220 09 11 000 6221 09 11 000 6222 09 11 000 6223	<table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length A</th> </tr> </thead> <tbody> <tr> <td>25 mm²</td> <td>7</td> <td>19 mm</td> </tr> <tr> <td>35 mm²</td> <td>8.2</td> <td>20 mm</td> </tr> <tr> <td>50 mm²</td> <td>10</td> <td>22.5 mm</td> </tr> <tr> <td>70 mm²</td> <td>11.5</td> <td>22.5 mm</td> </tr> </tbody> </table> <p>for stranded wire according to IEC 60 228 Class 5</p>	Wire gauge	∅	Stripping length A	25 mm ²	7	19 mm	35 mm ²	8.2	20 mm	50 mm ²	10	22.5 mm	70 mm ²	11.5	22.5 mm
Wire gauge	∅	Stripping length A																	
25 mm ²	7	19 mm																	
35 mm ²	8.2	20 mm																	
50 mm ²	10	22.5 mm																	
70 mm ²	11.5	22.5 mm																	

Features

- Crimp- and Axial module are compatible modules
- Contacts can be unlocked from the mating side

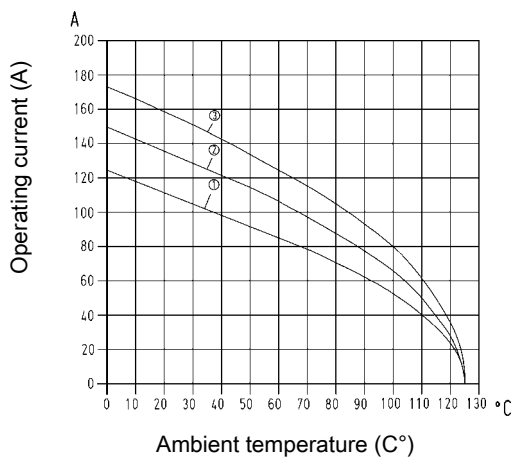
Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2

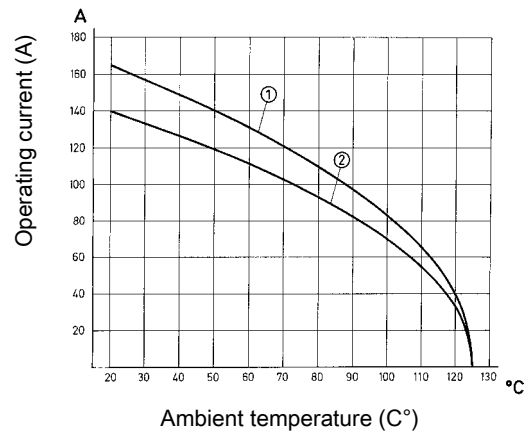
Crimp terminal



- ① 24 B hoods/housings with 3 modules Wire cross section 16 mm²
- ② 24 B hoods/housings with 3 modules Wire cross section 25 mm²
- ③ 24 B hoods/housings with 3 modules Wire cross section 35 mm²

Derating

Axial screw termination



- ① 24 B hoods/housings with 3 modules Wire cross section 35 mm²
- ② 24 B hoods/housings with 3 modules Wire cross section 25 mm²

Technical characteristics

Contacts	2
Electrical data acc. to IEC 61984	100 A 1000 V 8 kV 3
Rated current	100 A
Rated voltage	1000 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Hex key	SW 4

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90


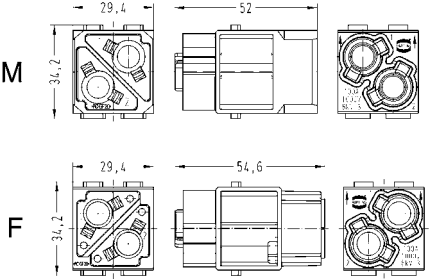

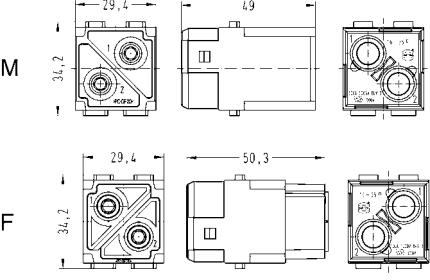

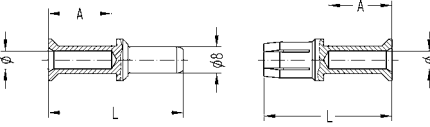
Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

2

1000 V
100 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm															
		male	female																
Han-Modular®, Han® 100 A Crimp module, Crimp terminal, silver plated contacts  <p>Please order crimp contacts separately.</p>		09 14 002 3051	09 14 002 3151																
Han-Modular®, Han® 200 A Crimp module, Axial screw terminal, silver plated contacts, contact resistance ≤0.3 mOhm 	10 – 25 16 – 35 38	09 14 002 2653 09 14 002 2651 09 14 002 2650	09 14 002 2753 09 14 002 2751 09 14 002 2750																
Crimp contact, TC 100, silver plated contacts, contact resistance ≤0.3 mOhm 	10 16 25 35	09 11 000 6114 09 11 000 6116 09 11 000 6125 09 11 000 6135	09 11 000 6214 09 11 000 6216 09 11 000 6225 09 11 000 6235	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>Ø</th> <th>Stripping length A</th> </tr> </thead> <tbody> <tr> <td>10 mm²</td> <td>4.3</td> <td>19 mm</td> </tr> <tr> <td>16 mm²</td> <td>5.5</td> <td>19 mm</td> </tr> <tr> <td>25 mm²</td> <td>7</td> <td>19 mm</td> </tr> <tr> <td>35 mm²</td> <td>8.2</td> <td>16 mm</td> </tr> </tbody> </table> <p>for stranded wire according to IEC 60 228 Class 5</p>	Wire gauge	Ø	Stripping length A	10 mm ²	4.3	19 mm	16 mm ²	5.5	19 mm	25 mm ²	7	19 mm	35 mm ²	8.2	16 mm
Wire gauge	Ø	Stripping length A																	
10 mm ²	4.3	19 mm																	
16 mm ²	5.5	19 mm																	
25 mm ²	7	19 mm																	
35 mm ²	8.2	16 mm																	

Han-Modular

Features

- Crimp or axial screw termination available
- Unlock of contacts with a screw driver from mating side
- Connect PE contact with special cable shoe
- Separate axial screw contacts can be terminated without any special tools directly to the wire

Technical characteristics

Contacts	1
Electrical data acc. to IEC 61984	100 A 830 V 8 kV 3
Rated current	100 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Hex key	SW 4

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the axial screw technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.


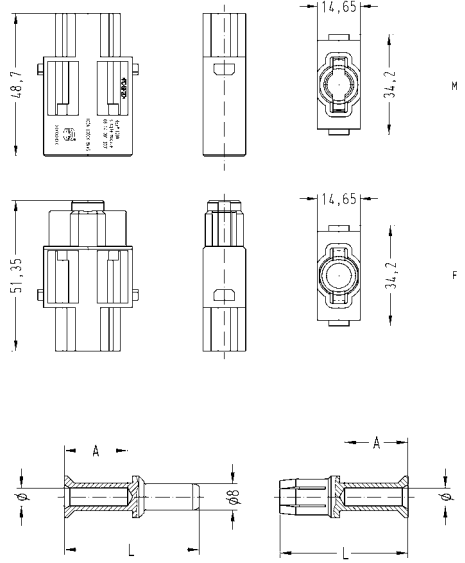

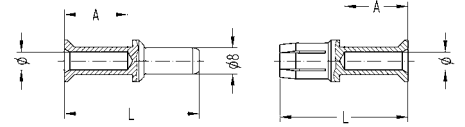

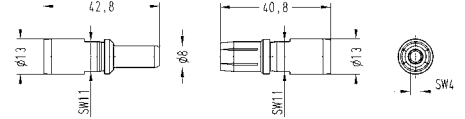
Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

1

830 V
100 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm															
		male	female																
Han-Modular®, Han® 100 A Single module, contact resistance ≤0.3 mOhm  Please order contacts separately.		09 14 001 3031	09 14 001 3131	 <table border="1" data-bbox="1034 1227 1500 1415"> <thead> <tr> <th>Wire gauge</th> <th>Ø</th> <th>Stripping length A</th> </tr> </thead> <tbody> <tr> <td>10 mm²</td> <td>4.3</td> <td>19 mm</td> </tr> <tr> <td>16 mm²</td> <td>5.5</td> <td>19 mm</td> </tr> <tr> <td>25 mm²</td> <td>7</td> <td>19 mm</td> </tr> <tr> <td>35 mm²</td> <td>8.2</td> <td>16 mm</td> </tr> </tbody> </table> for stranded wire according to IEC 60 228 Class 5	Wire gauge	Ø	Stripping length A	10 mm ²	4.3	19 mm	16 mm ²	5.5	19 mm	25 mm ²	7	19 mm	35 mm ²	8.2	16 mm
Wire gauge	Ø	Stripping length A																	
10 mm ²	4.3	19 mm																	
16 mm ²	5.5	19 mm																	
25 mm ²	7	19 mm																	
35 mm ²	8.2	16 mm																	
Crimp contact, TC 100, silver plated contacts, contact resistance ≤0.3 mOhm 	10 16 25 35	09 11 000 6114 09 11 000 6116 09 11 000 6125 09 11 000 6135	09 11 000 6214 09 11 000 6216 09 11 000 6225 09 11 000 6235	 <table border="1" data-bbox="1034 1227 1500 1415"> <thead> <tr> <th>Wire gauge</th> <th>Ø</th> <th>Stripping length A</th> </tr> </thead> <tbody> <tr> <td>10 mm²</td> <td>4.3</td> <td>19 mm</td> </tr> <tr> <td>16 mm²</td> <td>5.5</td> <td>19 mm</td> </tr> <tr> <td>25 mm²</td> <td>7</td> <td>19 mm</td> </tr> <tr> <td>35 mm²</td> <td>8.2</td> <td>16 mm</td> </tr> </tbody> </table> for stranded wire according to IEC 60 228 Class 5	Wire gauge	Ø	Stripping length A	10 mm ²	4.3	19 mm	16 mm ²	5.5	19 mm	25 mm ²	7	19 mm	35 mm ²	8.2	16 mm
Wire gauge	Ø	Stripping length A																	
10 mm ²	4.3	19 mm																	
16 mm ²	5.5	19 mm																	
25 mm ²	7	19 mm																	
35 mm ²	8.2	16 mm																	
Axial screw contact, silver plated contacts, contact resistance ≤0.3 mOhm 	10–25 16–35	09 11 000 6112 09 11 000 6113	09 11 000 6212 09 11 000 6213	 Stripping length 13 mm Tightening torque <table border="1" data-bbox="1189 1662 1500 1724"> <thead> <tr> <th>mm²</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> </tr> </thead> <tbody> <tr> <td>Nm</td> <td>6</td> <td>6</td> <td>7</td> <td>8</td> </tr> </tbody> </table>	mm ²	10	16	25	35	Nm	6	6	7	8					
mm ²	10	16	25	35															
Nm	6	6	7	8															

Features

- For power circuits
- Male inserts with protection collar
- Polarisation of module

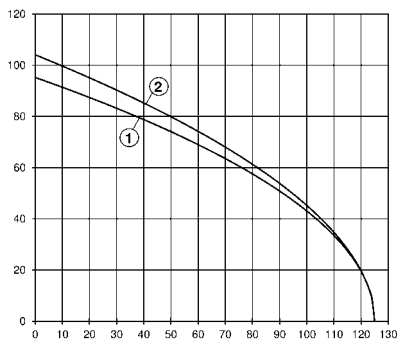
Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2

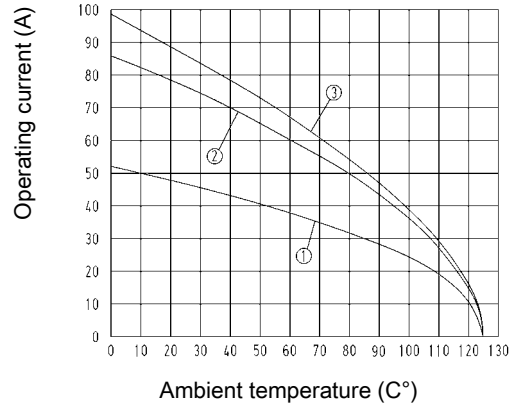
Crimp terminal



- ① 24 B hoods/housings with 6 modules Wire cross section 16 mm²
- ② 24 B hoods/housings with 6 modules Wire cross section 25 mm²

Derating

Axial screw termination



- ① 24 B hoods/housings with 6 modules Wire cross section 6 mm²
- ② 24 B hoods/housings with 6 modules Wire cross section 16 mm²
- ③ 24 B hoods/housings with 6 modules Wire cross section 22 mm²

Technical characteristics

Contacts	2
Electrical data acc. to IEC 61984	70 A 1000 V 8 kV 3
Rated current	70 A
Rated voltage	1000 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Hex key	SW 2.5

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90


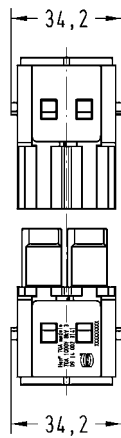
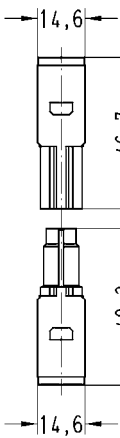


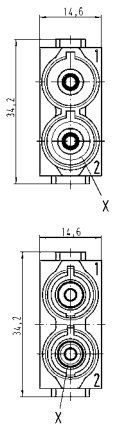
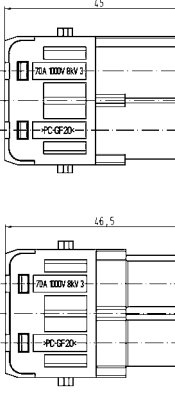
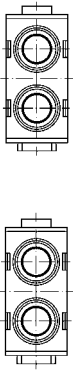
Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.


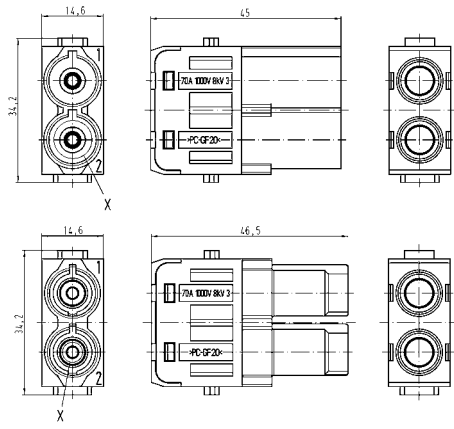

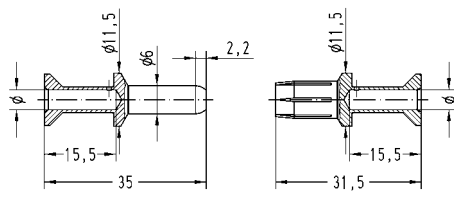
Number of contacts

2

1000 V
70 A

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm		
		male	female			
<p>Han-Modular®, Han® 70 A Crimp module, Crimp terminal</p> 		09 14 002 3041	09 14 002 3141			
<p>Han-Modular®, Han® 70 A Axial module, Axial screw terminal, silver plated contacts, contact resistance ≤0.5 mOhm</p>  <p>finger safe</p>	6 – 16 14 – 22	09 14 002 2641 09 14 002 2642				

Han-Modular

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm												
		male	female													
Han-Modular®, Han® 70 A Axial module, Axial screw terminal, silver plated contacts, contact resistance ≤0.5 mOhm 	6 – 16 14 – 22	09 14 002 2646 09 14 002 2647	09 14 002 2741 09 14 002 2742													
Crimp contact, TC 70, silver plated contacts, contact resistance ≤0.5 mOhm 	10 16 25	09 11 000 6131 09 11 000 6132 09 11 000 6133	09 11 000 6231 09 11 000 6232 09 11 000 6233	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length A</th> </tr> </thead> <tbody> <tr> <td>10 mm²</td> <td>4.3</td> <td>15.5 mm</td> </tr> <tr> <td>16 mm²</td> <td>5.5</td> <td>15.5 mm</td> </tr> <tr> <td>25 mm²</td> <td>7</td> <td>15.5 mm</td> </tr> </tbody> </table> for stranded wire according to IEC 60 228 Class 5	Wire gauge	∅	Stripping length A	10 mm ²	4.3	15.5 mm	16 mm ²	5.5	15.5 mm	25 mm ²	7	15.5 mm
Wire gauge	∅	Stripping length A														
10 mm ²	4.3	15.5 mm														
16 mm ²	5.5	15.5 mm														
25 mm ²	7	15.5 mm														

Han-Modular

Features

- Axial screw termination
- For power circuits
- Male inserts with protection collar
- Polarisation of module

Technical characteristics

Contacts	1/4
Electrical data acc. to IEC 61984	70 A 1000 V 8 kV 3
Rated current	70 A
Rated voltage	1000 V
Rated impulse voltage	8 kV
Pollution degree	3
Electrical data, signal	16 A 400 V 6 kV 3
Rated current	16 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Hex key	SW 2.5

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the axial screw technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Remarks on the crimp technique


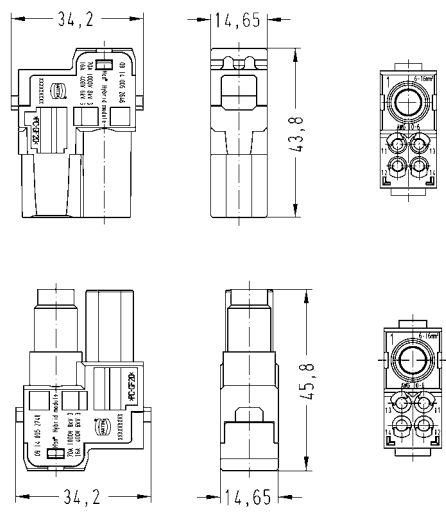

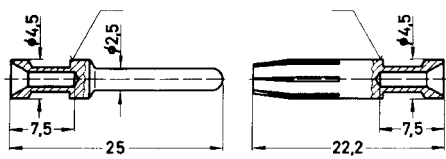
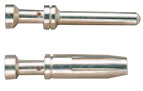
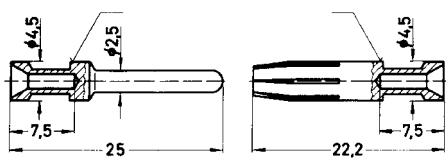
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

1/4

1000 V / 400 V
70 A/16 A

Han-Modular

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																											
		male	female																												
Han-Modular®, Han-Modular® 70 A Hybrid module, Axial screw terminal  Please order signal contacts separately.	6 – 16 14 – 22	09 14 005 2646 09 14 005 2647	09 14 005 2741 09 14 005 2742																												
Han E®, Crimp contact, gold plated contacts, contact resistance ≤1 mOhm 	0.14 – 0.37 0.5 0.75 1 1.5 2.5 4	09 33 000 6117 09 33 000 6122 09 33 000 6115 09 33 000 6118 09 33 000 6116 09 33 000 6123 09 33 000 6119	09 33 000 6217 09 33 000 6222 09 33 000 6215 09 33 000 6218 09 33 000 6216 09 33 000 6223 09 33 000 6221	 <table border="1"> <thead> <tr> <th>Identification</th> <th>Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>no groove</td> <td>0.14-0.37 mm² AWG 26-22</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>0.5 mm² AWG 20</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove*</td> <td>0.75 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove</td> <td>1 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>2 grooves</td> <td>1.5 mm² AWG 16</td> <td>7.5 mm</td> </tr> <tr> <td>3 grooves</td> <td>2.5 mm² AWG 14</td> <td>7.5 mm</td> </tr> <tr> <td>wide groove</td> <td>3 mm² AWG 12</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>4 mm² AWG 12</td> <td>7.5 mm</td> </tr> </tbody> </table> <p>* on the back crimp collar</p>	Identification	Wire gauge	Stripping length	no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm	no groove	0.5 mm ² AWG 20	7.5 mm	1 groove*	0.75 mm ² AWG 18	7.5 mm	1 groove	1 mm ² AWG 18	7.5 mm	2 grooves	1.5 mm ² AWG 16	7.5 mm	3 grooves	2.5 mm ² AWG 14	7.5 mm	wide groove	3 mm ² AWG 12	7.5 mm	no groove	4 mm ² AWG 12	7.5 mm
Identification	Wire gauge	Stripping length																													
no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm																													
no groove	0.5 mm ² AWG 20	7.5 mm																													
1 groove*	0.75 mm ² AWG 18	7.5 mm																													
1 groove	1 mm ² AWG 18	7.5 mm																													
2 grooves	1.5 mm ² AWG 16	7.5 mm																													
3 grooves	2.5 mm ² AWG 14	7.5 mm																													
wide groove	3 mm ² AWG 12	7.5 mm																													
no groove	4 mm ² AWG 12	7.5 mm																													
Han E®, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm 	0.14 – 0.37 0.5 0.75 1 1.5 2.5 3 4	09 33 000 6127 09 33 000 6121 09 33 000 6114 09 33 000 6105 09 33 000 6104 09 33 000 6102 09 33 000 6106 09 33 000 6107	09 33 000 6227 09 33 000 6220 09 33 000 6214 09 33 000 6205 09 33 000 6204 09 33 000 6202 09 33 000 6206 09 33 000 6207	 <table border="1"> <thead> <tr> <th>Identification</th> <th>Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>no groove</td> <td>0.14-0.37 mm² AWG 26-22</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>0.5 mm² AWG 20</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove*</td> <td>0.75 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove</td> <td>1 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>2 grooves</td> <td>1.5 mm² AWG 16</td> <td>7.5 mm</td> </tr> <tr> <td>3 grooves</td> <td>2.5 mm² AWG 14</td> <td>7.5 mm</td> </tr> <tr> <td>wide groove</td> <td>3 mm² AWG 12</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>4 mm² AWG 12</td> <td>7.5 mm</td> </tr> </tbody> </table> <p>* on the back crimp collar</p>	Identification	Wire gauge	Stripping length	no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm	no groove	0.5 mm ² AWG 20	7.5 mm	1 groove*	0.75 mm ² AWG 18	7.5 mm	1 groove	1 mm ² AWG 18	7.5 mm	2 grooves	1.5 mm ² AWG 16	7.5 mm	3 grooves	2.5 mm ² AWG 14	7.5 mm	wide groove	3 mm ² AWG 12	7.5 mm	no groove	4 mm ² AWG 12	7.5 mm
Identification	Wire gauge	Stripping length																													
no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm																													
no groove	0.5 mm ² AWG 20	7.5 mm																													
1 groove*	0.75 mm ² AWG 18	7.5 mm																													
1 groove	1 mm ² AWG 18	7.5 mm																													
2 grooves	1.5 mm ² AWG 16	7.5 mm																													
3 grooves	2.5 mm ² AWG 14	7.5 mm																													
wide groove	3 mm ² AWG 12	7.5 mm																													
no groove	4 mm ² AWG 12	7.5 mm																													

Features

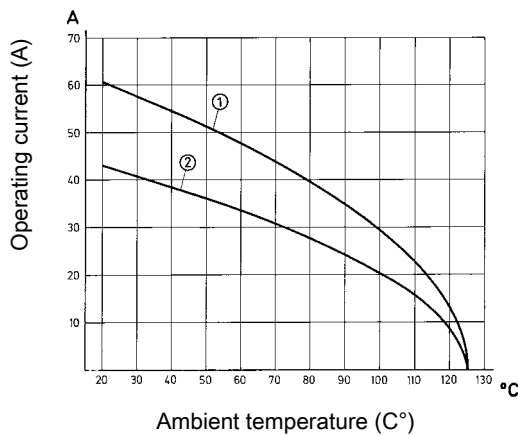
- Crimp or axial screw termination available
- No special tools required for axial-screw termination

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① 24 B hoods/housings with 6 modules Wire cross section 10 mm²
- ② 24 B hoods/housings with 6 modules Wire cross section 6 mm²

Technical characteristics

Contacts	2
Electrical data acc. to IEC 61984	40 A 1000 V 8 kV 3
Rated current	40 A
Rated voltage	1000 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Hex key	SW 2

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique


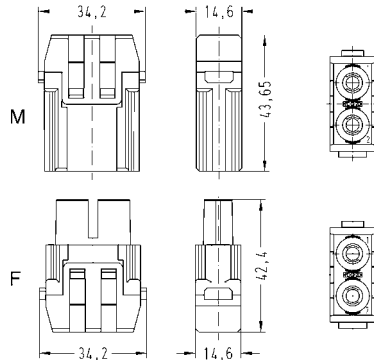

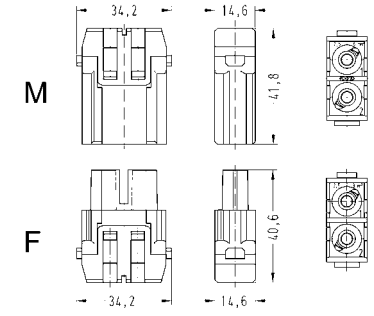

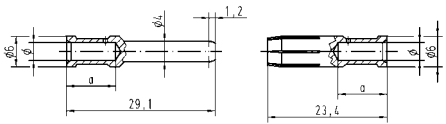
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

2

1000 V
40 A

Han-
Modular

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																				
		male	female																					
Han-Modular®, Han® 40 A Crimp module, Crimp terminal  Please order crimp contacts separately.		09 14 002 3002	09 14 002 3102	 Contact arrangement (view from termination side)																				
Han-Modular®, Han® 40 A Axial module, Axial screw terminal, silver plated contacts, contact resistance ≤0.3 mOhm 	2.5–8 6–10	09 14 002 2601 09 14 002 2602	09 14 002 2701 09 14 002 2702	 Contact arrangement (view from termination side) Stripping length <table border="1" data-bbox="1157 1534 1460 1590"> <tr> <td>mm²</td> <td>2,5</td> <td>4</td> <td>6</td> <td>10</td> </tr> <tr> <td>mm</td> <td>5⁺¹</td> <td>5⁺¹</td> <td>8⁺¹</td> <td>11⁺¹</td> </tr> </table> Tightening torque <table border="1" data-bbox="1157 1612 1460 1668"> <tr> <td>mm²</td> <td>2,5</td> <td>4</td> <td>6</td> <td>10</td> </tr> <tr> <td>Nm</td> <td>1,5</td> <td>1,5</td> <td>2</td> <td>2</td> </tr> </table>	mm ²	2,5	4	6	10	mm	5 ⁺¹	5 ⁺¹	8 ⁺¹	11 ⁺¹	mm ²	2,5	4	6	10	Nm	1,5	1,5	2	2
mm ²	2,5	4	6	10																				
mm	5 ⁺¹	5 ⁺¹	8 ⁺¹	11 ⁺¹																				
mm ²	2,5	4	6	10																				
Nm	1,5	1,5	2	2																				
Han® C, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm 	1.5 2.5 4 6 10	09 32 000 6104 09 32 000 6105 09 32 000 6107 09 32 000 6108 09 32 000 6109	09 32 000 6204 09 32 000 6205 09 32 000 6207 09 32 000 6208 09 32 000 6209	 <table border="1" data-bbox="1013 1870 1460 2004"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>1.5 mm² AWG 16</td> <td>1.75</td> <td>9.5 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25</td> <td>9.5 mm</td> </tr> <tr> <td>4 mm² AWG 12</td> <td>2.85</td> <td>9.5 mm</td> </tr> <tr> <td>6 mm² AWG 10</td> <td>3.5</td> <td>9.5 mm</td> </tr> <tr> <td>10 mm² AWG 8</td> <td>4.3</td> <td>12 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	1.5 mm ² AWG 16	1.75	9.5 mm	2.5 mm ² AWG 14	2.25	9.5 mm	4 mm ² AWG 12	2.85	9.5 mm	6 mm ² AWG 10	3.5	9.5 mm	10 mm ² AWG 8	4.3	12 mm		
Wire gauge	∅	Stripping length																						
1.5 mm ² AWG 16	1.75	9.5 mm																						
2.5 mm ² AWG 14	2.25	9.5 mm																						
4 mm ² AWG 12	2.85	9.5 mm																						
6 mm ² AWG 10	3.5	9.5 mm																						
10 mm ² AWG 8	4.3	12 mm																						

Features

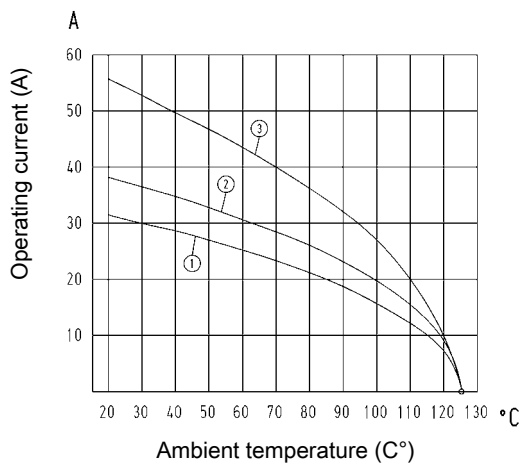
- Standard module for power up to 40 A
- No special tools required for axial-screw termination

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① 24 B hoods/housings with 6 modules Wire cross section 4 mm²
- ② 24 B hoods/housings with 6 modules Wire cross section 6 mm²
- ③ 24 B hoods/housings with 6 modules Wire cross section 10 mm²

Technical characteristics

Contacts	3
Electrical data acc. to IEC 61984	40 A 690 V 8 kV 3
Rated current	40 A
Rated voltage	690 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated current acc. to UL	40 A
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Hex key	SW 2

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique


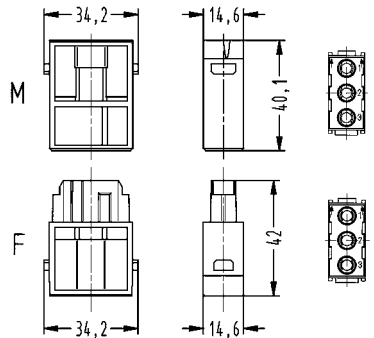

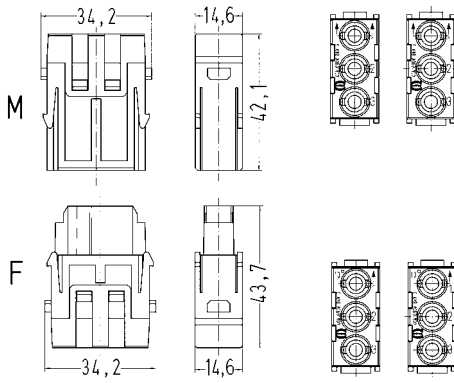

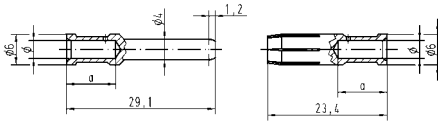
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

3

690 V
40 A

Han-
Modular

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																				
		male	female																					
Han-Modular®, Han® C module, Crimp terminal  Please order crimp contacts separately.		09 14 003 3001	09 14 003 3101	 Contact arrangement (view from termination side)																				
Han-Modular®, Han® C module, Axial screw terminal, silver plated contacts, contact resistance ≤0.3 mOhm 	2.5–8 6–10	09 14 003 2601 09 14 003 2602	09 14 003 2701 09 14 003 2702	 Stripping length <table border="1" data-bbox="1157 1523 1460 1579"> <tr> <td>mm²</td> <td>2,5</td> <td>4</td> <td>6</td> <td>10</td> </tr> <tr> <td>mm</td> <td>5⁺¹</td> <td>5⁺¹</td> <td>8⁺¹</td> <td>11⁺¹</td> </tr> </table> Tightening torque <table border="1" data-bbox="1157 1601 1460 1657"> <tr> <td>mm²</td> <td>2,5</td> <td>4</td> <td>6</td> <td>10</td> </tr> <tr> <td>Nm</td> <td>1,5</td> <td>1,5</td> <td>2</td> <td>2</td> </tr> </table>	mm ²	2,5	4	6	10	mm	5 ⁺¹	5 ⁺¹	8 ⁺¹	11 ⁺¹	mm ²	2,5	4	6	10	Nm	1,5	1,5	2	2
mm ²	2,5	4	6	10																				
mm	5 ⁺¹	5 ⁺¹	8 ⁺¹	11 ⁺¹																				
mm ²	2,5	4	6	10																				
Nm	1,5	1,5	2	2																				
Han® C, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm 	1.5 2.5 4 6 10	09 32 000 6104 09 32 000 6105 09 32 000 6107 09 32 000 6108 09 32 000 6109	09 32 000 6204 09 32 000 6205 09 32 000 6207 09 32 000 6208 09 32 000 6209	 <table border="1" data-bbox="1005 1870 1460 2004"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>1.5 mm² AWG 16</td> <td>1.75</td> <td>9.5 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25</td> <td>9.5 mm</td> </tr> <tr> <td>4 mm² AWG 12</td> <td>2.85</td> <td>9.5 mm</td> </tr> <tr> <td>6 mm² AWG 10</td> <td>3.5</td> <td>9.5 mm</td> </tr> <tr> <td>10 mm² AWG 8</td> <td>4.3</td> <td>12 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	1.5 mm ² AWG 16	1.75	9.5 mm	2.5 mm ² AWG 14	2.25	9.5 mm	4 mm ² AWG 12	2.85	9.5 mm	6 mm ² AWG 10	3.5	9.5 mm	10 mm ² AWG 8	4.3	12 mm		
Wire gauge	∅	Stripping length																						
1.5 mm ² AWG 16	1.75	9.5 mm																						
2.5 mm ² AWG 14	2.25	9.5 mm																						
4 mm ² AWG 12	2.85	9.5 mm																						
6 mm ² AWG 10	3.5	9.5 mm																						
10 mm ² AWG 8	4.3	12 mm																						

Features

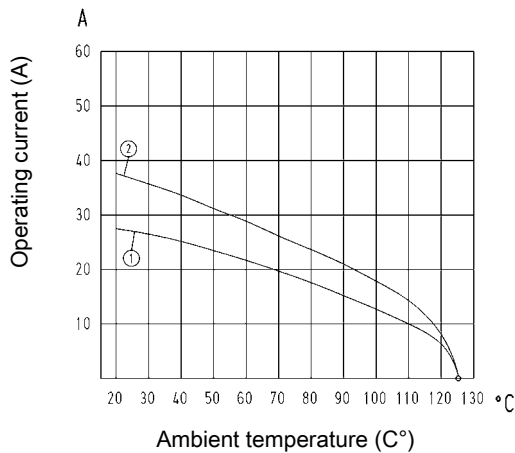
- Suitable for Han® C crimp contacts
- Designed for a high working voltage up to 830 V
- Finger safe male and female contacts
- High density of contacts

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① 24 B hoods/housings with 6 modules Wire cross section 4 mm²
- ② 24 B hoods/housings with 6 modules Wire cross section 6 mm²

Technical characteristics

Contacts	4
Electrical data acc. to IEC 61984	40 A 830 V 8 kV 3
Rated current	40 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Features

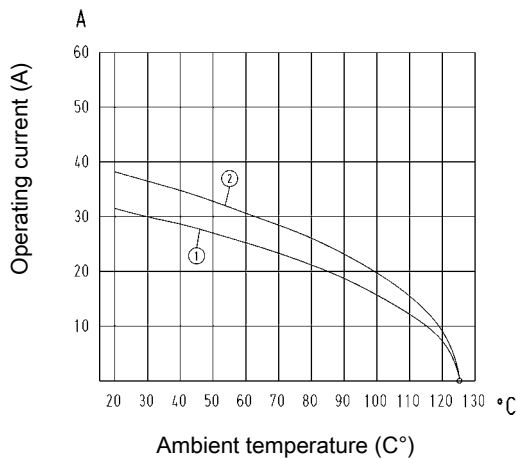
- 3 contacts (40 A) for power circuits and 4 contacts (10 A) for signal circuits
- Ideal as motor drive connector
- Finger safe male and female contacts

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① 24 B hoods/housings with 6 modules Wire cross section 4 mm²
- ② 24 B hoods/housings with 6 modules Wire cross section 6 mm²

Technical characteristics

Contacts	3/4
Electrical data acc. to IEC 61984	40 A 830 V 8 kV 3
Rated current	40 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3
Electrical data, signal	10 A 830 V 8 kV 3
Rated current	10 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984


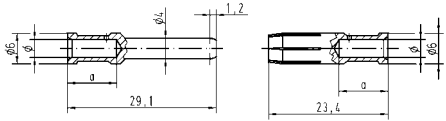


Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																		
		male	female																			
Han® C, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm 	1.5	09 32 000 6104	09 32 000 6204	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>1.5 mm² AWG 16</td> <td>1.75</td> <td>9.5 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25</td> <td>9.5 mm</td> </tr> <tr> <td>4 mm² AWG 12</td> <td>2.85</td> <td>9.5 mm</td> </tr> <tr> <td>6 mm² AWG 10</td> <td>3.5</td> <td>9.5 mm</td> </tr> <tr> <td>10 mm² AWG 8</td> <td>4.3</td> <td>12 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	1.5 mm ² AWG 16	1.75	9.5 mm	2.5 mm ² AWG 14	2.25	9.5 mm	4 mm ² AWG 12	2.85	9.5 mm	6 mm ² AWG 10	3.5	9.5 mm	10 mm ² AWG 8	4.3	12 mm
	Wire gauge	∅	Stripping length																			
	1.5 mm ² AWG 16	1.75	9.5 mm																			
	2.5 mm ² AWG 14	2.25	9.5 mm																			
4 mm ² AWG 12	2.85	9.5 mm																				
6 mm ² AWG 10	3.5	9.5 mm																				
10 mm ² AWG 8	4.3	12 mm																				
2.5	09 32 000 6105	09 32 000 6205																				
4	09 32 000 6107	09 32 000 6207																				
6	09 32 000 6108	09 32 000 6208																				

Features

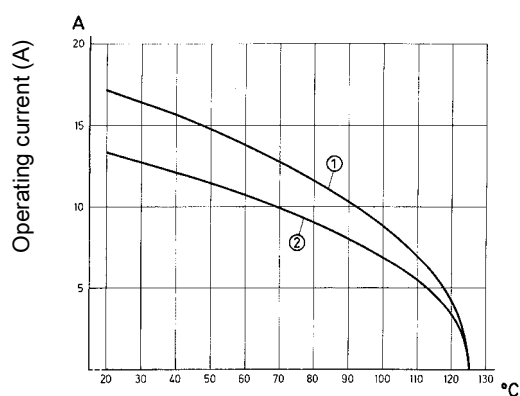
- Standard module for power up to 16 A
- Han-Quick Lock[®] or Crimp terminal available

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



Ambient temperature (C°)

- ① 24 B hoods/housings with 6 modules Wire cross section 2.5 mm²
- ② 24 B hoods/housings with 6 modules Wire cross section 1.5 mm²

Technical characteristics

Contacts	6
Electrical data acc. to IEC 61984	16 A 500 V 6 kV 3
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Mating cycles with HMC contacts	≥10000
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique



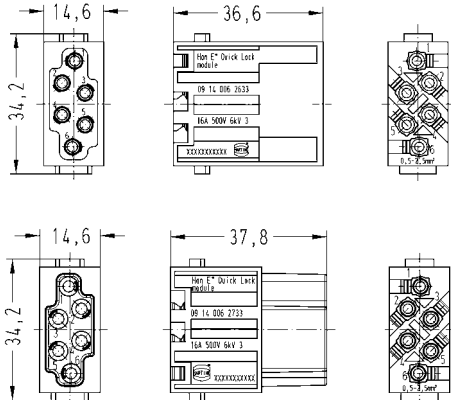

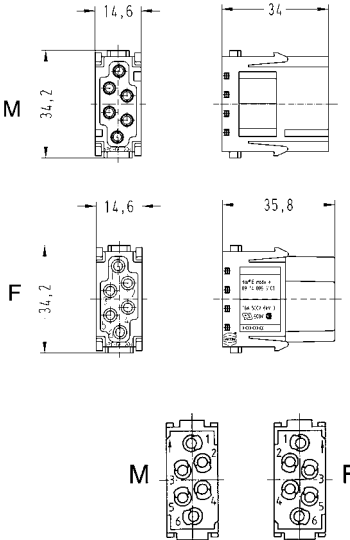
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Designed for 10,000 mating cycles (only with Han E[®] HMC crimp contacts, Han-Modular[®] Docking frame and Han-Modular[®] Hinged frame HMC)

Number of contacts

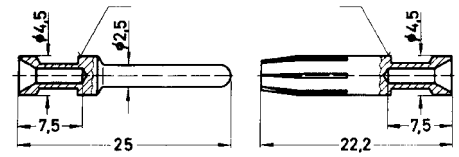
6

500 V
16 A

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p> Han-Quick Lock® Han-Modular®, Han E® module, Han-Quick Lock® termination, silver plated contacts, contact resistance ≤1 mOhm</p> 	0.5–2.5	09 14 006 2633	09 14 006 2733	 <p>Contact arrangement (view from termination side)</p>
<p>Han-Modular®, Han E® module, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 14 006 3001	09 14 006 3101	 <p>Contact arrangement (view from termination side)</p>

Han-Modular

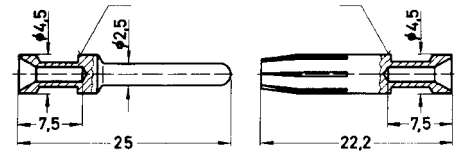
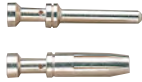
Identification	Wire cross section (mm ²)	Part number	
		male	female
Han E®, Crimp contact, gold plated contacts, contact resistance ≤1 mOhm	0.14–0.37	09 33 000 6117	09 33 000 6217
	0.5	09 33 000 6122	09 33 000 6222
	0.75	09 33 000 6115	09 33 000 6215
	1	09 33 000 6118	09 33 000 6218
	1.5	09 33 000 6116	09 33 000 6216
	2.5	09 33 000 6123	09 33 000 6223
	4	09 33 000 6119	09 33 000 6221



Identification	Wire gauge	Stripping length
no groove	0.14–0.37 mm ² AWG 26–22	7.5 mm
no groove	0.5 mm ² AWG 20	7.5 mm
1 groove*	0.75 mm ² AWG 18	7.5 mm
1 groove	1 mm ² AWG 18	7.5 mm
2 grooves	1.5 mm ² AWG 16	7.5 mm
3 grooves	2.5 mm ² AWG 14	7.5 mm
wide groove	3 mm ² AWG 12	7.5 mm
no groove	4 mm ² AWG 12	7.5 mm

* on the back crimp collar

Identification	Wire cross section (mm ²)	Part number	
		male	female
Han E®, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm	0.14–0.37	09 33 000 6127	09 33 000 6227
	0.5	09 33 000 6121	09 33 000 6220
	0.75	09 33 000 6114	09 33 000 6214
	1	09 33 000 6105	09 33 000 6205
	1.5	09 33 000 6104	09 33 000 6204
	2.5	09 33 000 6102	09 33 000 6202
	3	09 33 000 6106	09 33 000 6206
	4	09 33 000 6107	09 33 000 6207



Identification	Wire gauge	Stripping length
no groove	0.14–0.37 mm ² AWG 26–22	7.5 mm
no groove	0.5 mm ² AWG 20	7.5 mm
1 groove*	0.75 mm ² AWG 18	7.5 mm
1 groove	1 mm ² AWG 18	7.5 mm
2 grooves	1.5 mm ² AWG 16	7.5 mm
3 grooves	2.5 mm ² AWG 14	7.5 mm
wide groove	3 mm ² AWG 12	7.5 mm
no groove	4 mm ² AWG 12	7.5 mm

* on the back crimp collar

Han-Modular

Features

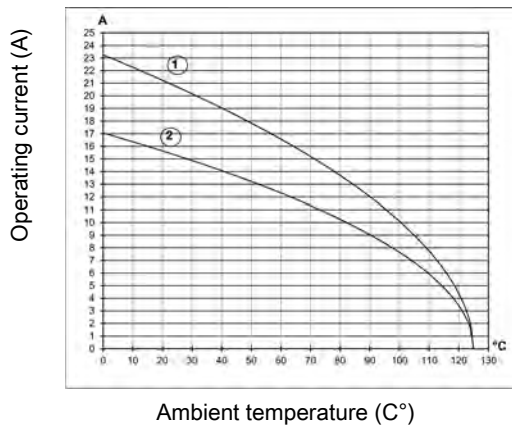
- Screw connection, suitable for all users around the world
- No special tools required
- For flexible and solid conductors from 0.5 to 2.5 mm²
- Additional protection against voltage and accidental contact by a sliding insulation cover which closes automatically during mating

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



Technical characteristics

Contacts	5
Electrical data acc. to IEC 61984	16 A 230/400 V 4 kV 3
Rated current	16 A
Rated voltage conductor - ground	230 V
Rated voltage conductor - conductor	400 V
Rated impulse voltage	4 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

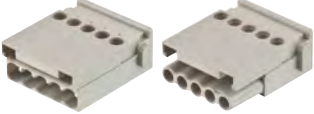
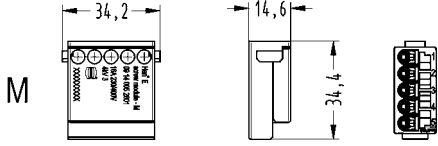
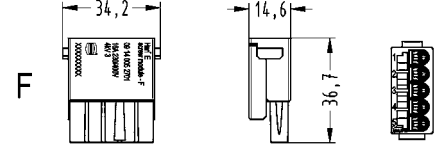
IEC 60664-1
IEC 61984



Number of contacts

5

230/400 V
16 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
<p>Han-Modular®, Han E® module, Screw terminal, silver plated contacts, contact resistance ≤1 mOhm</p> 	0.5-2.5	09 14 005 2601	09 14 005 2701	<div style="display: flex; flex-direction: column; align-items: flex-start;"> <div style="margin-bottom: 10px;"> <p>M</p>  </div> <div> <p>F</p>  </div> </div>

Han-Modular

Features

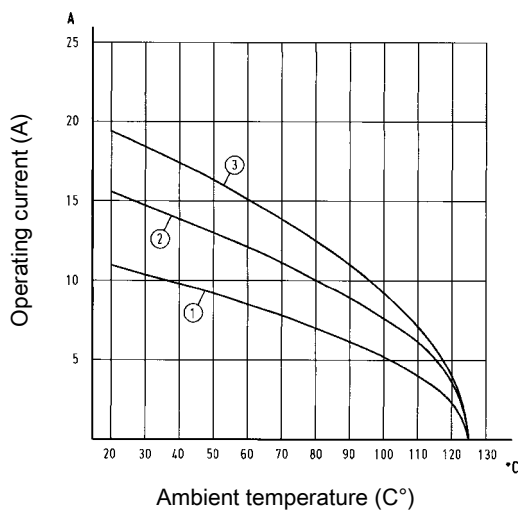
- Suitable for Han E® crimp contacts
- Designed for a high working voltage up to 830 V
- Finger safe male and female contacts

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① 24 B hoods/housings with 6 modules Wire cross section 1.5 mm²
- ② 24 B hoods/housings with 6 modules Wire cross section 2.5 mm²
- ③ 24 B hoods/housings with 6 modules Wire cross section 4 mm²

Technical characteristics

Contacts	6
Electrical data acc. to IEC 61984	16 A 830 V 8 kV 3
Rated current	16 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Mating cycles with HMC contacts	≥10000
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Designed for 10,000 mating cycles (only with Han E® HMC crimp contacts, Han-Modular® Docking frame and Han-Modular® Hinged frame HMC)

Number of contacts

6

830 V
16 A

Han-Modular

Han-Modular[®],
Han E[®] Protected module,
Crimp terminal



Please order crimp contacts separately.

Wire cross section (mm²)

Part number

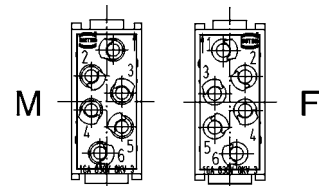
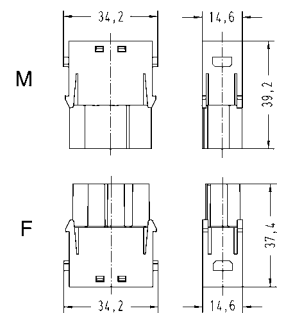
male

female

Drawing
Dimensions in mm

09 14 006 3041

09 14 006 3141



Contact arrangement (view from termination side)

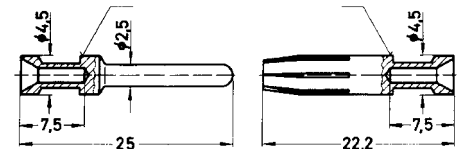
Han E[®],
Crimp contact,
gold plated contacts,
contact resistance ≤1 mOhm



0.14–0.37
0.5
0.75
1
1.5
2.5
4


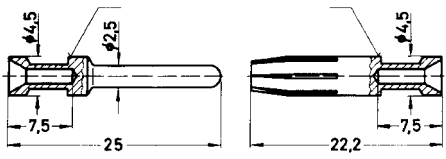
09 33 000 6117
09 33 000 6122
09 33 000 6115
09 33 000 6118
09 33 000 6116
09 33 000 6123
09 33 000 6119

09 33 000 6217
09 33 000 6222
09 33 000 6215
09 33 000 6218
09 33 000 6216
09 33 000 6223
09 33 000 6221



Identification	Wire gauge	Stripping length
no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm
no groove	0.5 mm ² AWG 20	7.5 mm
1 groove*	0.75 mm ² AWG 18	7.5 mm
1 groove	1 mm ² AWG 18	7.5 mm
2 grooves	1.5 mm ² AWG 16	7.5 mm
3 grooves	2.5 mm ² AWG 14	7.5 mm
wide groove	3 mm ² AWG 12	7.5 mm
no groove	4 mm ² AWG 12	7.5 mm

* on the back crimp collar

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han E [®] , Crimp contact, silver plated contacts, contact resistance ≤1 mOhm 	0.14–0.37	09 33 000 6127	09 33 000 6227	
	0.5	09 33 000 6121	09 33 000 6220	
	0.75	09 33 000 6114	09 33 000 6214	
	1	09 33 000 6105	09 33 000 6205	
	1.5	09 33 000 6104	09 33 000 6204	
	2.5	09 33 000 6102	09 33 000 6202	
	3	09 33 000 6106	09 33 000 6206	
	4	09 33 000 6107	09 33 000 6207	

Identification	Wire gauge		Stripping length
no groove	0.14-0.37 mm ²	AWG 26-22	7.5 mm
no groove	0.5 mm ²	AWG 20	7.5 mm
1 groove*	0.75 mm ²	AWG 18	7.5 mm
1 groove	1 mm ²	AWG 18	7.5 mm
2 grooves	1.5 mm ²	AWG 16	7.5 mm
3 grooves	2.5 mm ²	AWG 14	7.5 mm
wide groove	3 mm ²	AWG 12	7.5 mm
no groove	4 mm ²	AWG 12	7.5 mm

* on the back crimp collar

Features

- Han-Quick Lock® or Crimp terminal available
- High contact density

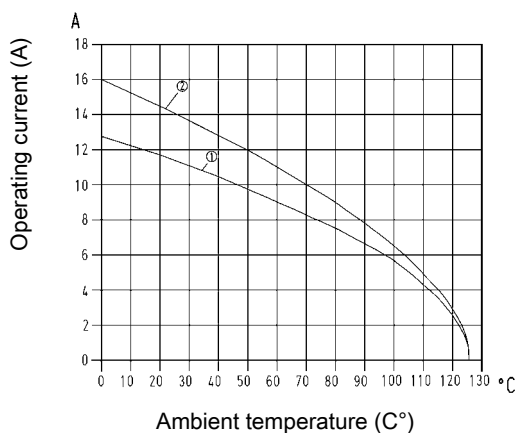
Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

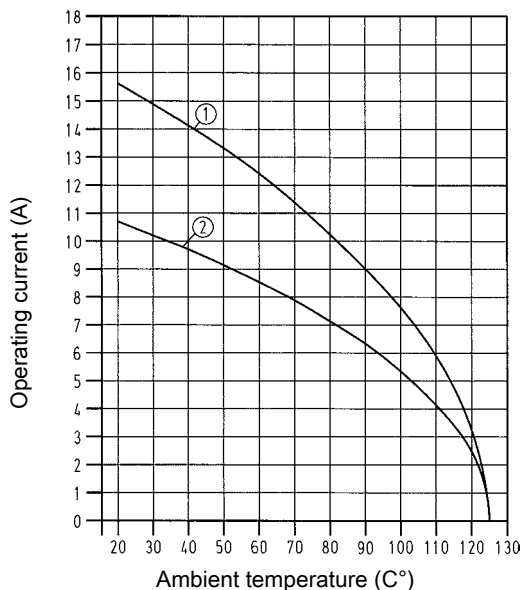
Measuring and testing techniques acc. to IEC 60512-5-2

Quick Lock termination



- ① 24 B hoods/housings with 6 modules Wire cross section 2.5 mm²
- ② 24 B hoods/housings with 6 modules Wire cross section 1.5 mm²

Crimp terminal



- ① 24 B hoods/housings with 6 modules Wire cross section 2.5 mm²
- ② 24 B hoods/housings with 6 modules Wire cross section 1.5 mm²

Technical characteristics

Contacts	8
Electrical data acc. to IEC 61984	blue slide 16 A 400 V 6 kV 3 black slide 16 A 400 V 6 kV 3 16 A 400 V 6 kV 3
Rated current	16 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Mating cycles with HMC contacts	≥10000
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique


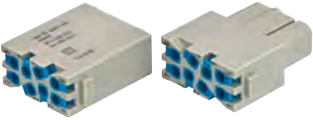
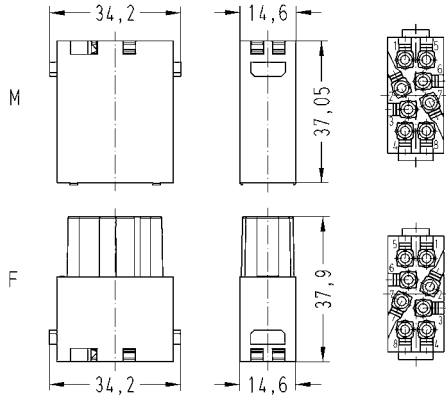

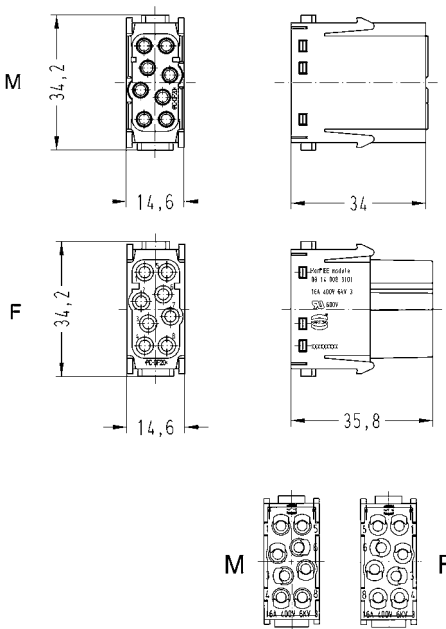

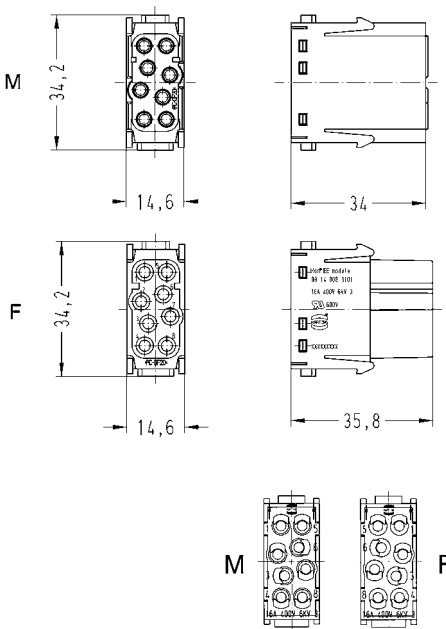
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Designed for 10,000 mating cycles (only with Han E® HMC crimp contacts, Han-Modular® Docking frame and Han-Modular® Hinged frame HMC)

Number of contacts

8

400 V
16 A

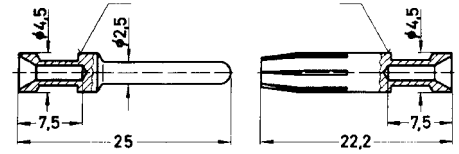
Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p> Han-Quick Lock® Han-Modular®, Han® EE module, Han-Quick Lock® termination, blue slide, silver plated contacts, contact resistance ≤1 mOhm</p> 	0.5 – 2.5	09 14 008 2633	09 14 008 2733	 <p>Contact arrangement (view from termination side)</p>
<p> Han-Quick Lock® Han® EE module, Han-Quick Lock® termination, black slide, silver plated contacts, contact resistance ≤1 mOhm</p>	0.25 – 1.5	09 14 008 2634	09 14 008 2734	 <p>Contact arrangement (view from termination side)</p>
<p>Han-Modular®, Han® EE module, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 14 008 3001	09 14 008 3101	 <p>Contact arrangement (view from termination side)</p>

Han-Modular

Identification	Wire cross section (mm ²)	Part number	
		male	female
Han E®, Crimp contact, gold plated contacts, contact resistance ≤1 mOhm	0.14–0.37	09 33 000 6117	09 33 000 6217
	0.5	09 33 000 6122	09 33 000 6222
	0.75	09 33 000 6115	09 33 000 6215
	1	09 33 000 6118	09 33 000 6218
	1.5	09 33 000 6116	09 33 000 6216
	2.5	09 33 000 6123	09 33 000 6223
	4	09 33 000 6119	09 33 000 6221



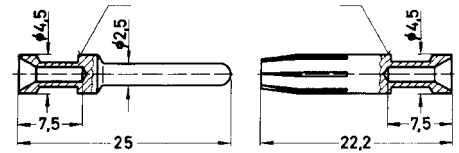
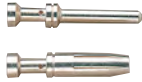
Drawing
Dimensions in mm



Identification	Wire gauge	Stripping length
no groove	0.14–0.37 mm ² AWG 26–22	7.5 mm
no groove	0.5 mm ² AWG 20	7.5 mm
1 groove*	0.75 mm ² AWG 18	7.5 mm
1 groove	1 mm ² AWG 18	7.5 mm
2 grooves	1.5 mm ² AWG 16	7.5 mm
3 grooves	2.5 mm ² AWG 14	7.5 mm
wide groove	3 mm ² AWG 12	7.5 mm
no groove	4 mm ² AWG 12	7.5 mm

* on the back crimp collar

Identification	Wire cross section (mm ²)	Part number	
		male	female
Han E®, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm	0.14–0.37	09 33 000 6127	09 33 000 6227
	0.5	09 33 000 6121	09 33 000 6220
	0.75	09 33 000 6114	09 33 000 6214
	1	09 33 000 6105	09 33 000 6205
	1.5	09 33 000 6104	09 33 000 6204
	2.5	09 33 000 6102	09 33 000 6202
	3	09 33 000 6106	09 33 000 6206
	4	09 33 000 6107	09 33 000 6207



Identification	Wire gauge	Stripping length
no groove	0.14–0.37 mm ² AWG 26–22	7.5 mm
no groove	0.5 mm ² AWG 20	7.5 mm
1 groove*	0.75 mm ² AWG 18	7.5 mm
1 groove	1 mm ² AWG 18	7.5 mm
2 grooves	1.5 mm ² AWG 16	7.5 mm
3 grooves	2.5 mm ² AWG 14	7.5 mm
wide groove	3 mm ² AWG 12	7.5 mm
no groove	4 mm ² AWG 12	7.5 mm

* on the back crimp collar

Han-Modular

Features

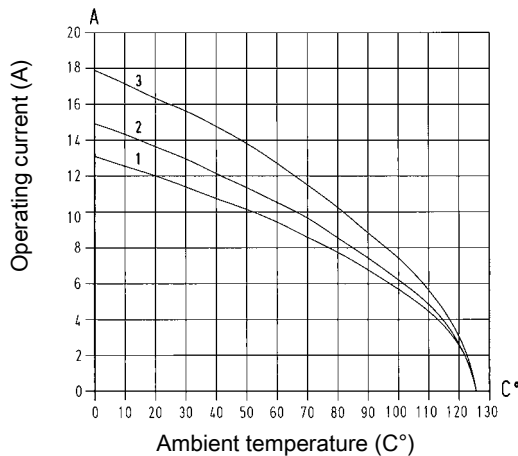
- Suitable for Han E® crimp contacts
- Higher density of crimping contacts
- Standard module for power up to 16 A
- Also suitable as a reliable signal connector

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① 24 B hoods/housings with 3 modules Wire cross section 1.5 mm²
- ② 24 B hoods/housings with 3 modules Wire cross section 2.5 mm²
- ③ 24 B hoods/housings with 3 modules Wire cross section 4 mm²

Technical characteristics

Contacts	20
Electrical data acc. to IEC 61984	16 A 500 V 6 kV 3
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Mating cycles with HMC contacts	≥10000
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique


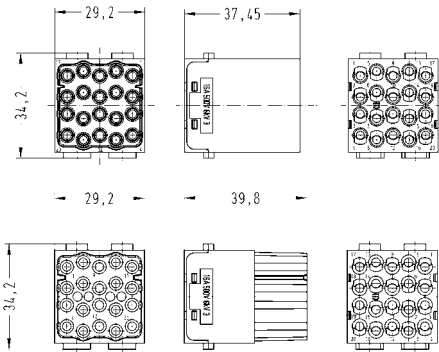

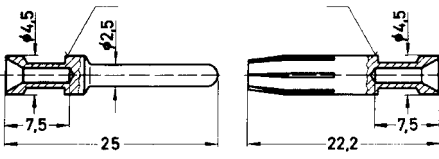
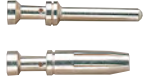
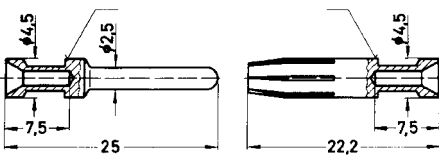
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Designed for 10,000 mating cycles (only with Han E® HMC crimp contacts, Han-Modular® Docking frame and Han-Modular® Hinged frame HMC)

Number of contacts

20

500 V
16 A

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm																											
		male	female																												
Han-Modular®, Han® EEE module, Crimp terminal  Please order crimp contacts separately.		09 14 020 3001	09 14 020 3101	 Contact arrangement (view from termination side)																											
Han E®, Crimp contact, gold plated contacts, contact resistance ≤1 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5 4	09 33 000 6117 09 33 000 6122 09 33 000 6115 09 33 000 6118 09 33 000 6116 09 33 000 6123 09 33 000 6119	09 33 000 6217 09 33 000 6222 09 33 000 6215 09 33 000 6218 09 33 000 6216 09 33 000 6223 09 33 000 6221	 <table border="1"> <thead> <tr> <th>Identification</th> <th>Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>no groove</td> <td>0.14-0.37 mm² AWG 26-22</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>0.5 mm² AWG 20</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove*</td> <td>0.75 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove</td> <td>1 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>2 grooves</td> <td>1.5 mm² AWG 16</td> <td>7.5 mm</td> </tr> <tr> <td>3 grooves</td> <td>2.5 mm² AWG 14</td> <td>7.5 mm</td> </tr> <tr> <td>wide groove</td> <td>3 mm² AWG 12</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>4 mm² AWG 12</td> <td>7.5 mm</td> </tr> </tbody> </table> * on the back crimp collar	Identification	Wire gauge	Stripping length	no groove	0.14-0.37 mm² AWG 26-22	7.5 mm	no groove	0.5 mm² AWG 20	7.5 mm	1 groove*	0.75 mm² AWG 18	7.5 mm	1 groove	1 mm² AWG 18	7.5 mm	2 grooves	1.5 mm² AWG 16	7.5 mm	3 grooves	2.5 mm² AWG 14	7.5 mm	wide groove	3 mm² AWG 12	7.5 mm	no groove	4 mm² AWG 12	7.5 mm
Identification	Wire gauge	Stripping length																													
no groove	0.14-0.37 mm² AWG 26-22	7.5 mm																													
no groove	0.5 mm² AWG 20	7.5 mm																													
1 groove*	0.75 mm² AWG 18	7.5 mm																													
1 groove	1 mm² AWG 18	7.5 mm																													
2 grooves	1.5 mm² AWG 16	7.5 mm																													
3 grooves	2.5 mm² AWG 14	7.5 mm																													
wide groove	3 mm² AWG 12	7.5 mm																													
no groove	4 mm² AWG 12	7.5 mm																													
Han E®, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5 3 4	09 33 000 6127 09 33 000 6121 09 33 000 6114 09 33 000 6105 09 33 000 6104 09 33 000 6102 09 33 000 6106 09 33 000 6107	09 33 000 6227 09 33 000 6220 09 33 000 6214 09 33 000 6205 09 33 000 6204 09 33 000 6202 09 33 000 6206 09 33 000 6207	 <table border="1"> <thead> <tr> <th>Identification</th> <th>Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>no groove</td> <td>0.14-0.37 mm² AWG 26-22</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>0.5 mm² AWG 20</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove*</td> <td>0.75 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove</td> <td>1 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>2 grooves</td> <td>1.5 mm² AWG 16</td> <td>7.5 mm</td> </tr> <tr> <td>3 grooves</td> <td>2.5 mm² AWG 14</td> <td>7.5 mm</td> </tr> <tr> <td>wide groove</td> <td>3 mm² AWG 12</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>4 mm² AWG 12</td> <td>7.5 mm</td> </tr> </tbody> </table> * on the back crimp collar	Identification	Wire gauge	Stripping length	no groove	0.14-0.37 mm² AWG 26-22	7.5 mm	no groove	0.5 mm² AWG 20	7.5 mm	1 groove*	0.75 mm² AWG 18	7.5 mm	1 groove	1 mm² AWG 18	7.5 mm	2 grooves	1.5 mm² AWG 16	7.5 mm	3 grooves	2.5 mm² AWG 14	7.5 mm	wide groove	3 mm² AWG 12	7.5 mm	no groove	4 mm² AWG 12	7.5 mm
Identification	Wire gauge	Stripping length																													
no groove	0.14-0.37 mm² AWG 26-22	7.5 mm																													
no groove	0.5 mm² AWG 20	7.5 mm																													
1 groove*	0.75 mm² AWG 18	7.5 mm																													
1 groove	1 mm² AWG 18	7.5 mm																													
2 grooves	1.5 mm² AWG 16	7.5 mm																													
3 grooves	2.5 mm² AWG 14	7.5 mm																													
wide groove	3 mm² AWG 12	7.5 mm																													
no groove	4 mm² AWG 12	7.5 mm																													

Features

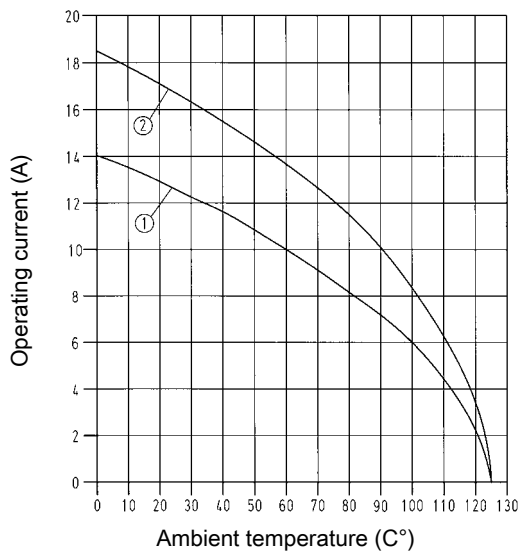
- Reliable cage clamp termination
- No special tools required

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① 24 B hoods/housings with 6 modules Wire cross section 1.5 mm²
- ② 24 B hoods/housings with 6 modules Wire cross section 2.5 mm²

Technical characteristics

Contacts	5
Electrical data acc. to IEC 61984	16 A 400 V 6 kV 3
Rated current	16 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984


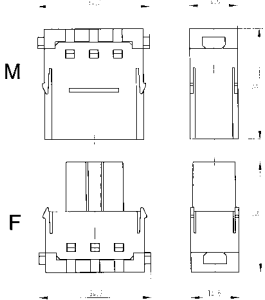
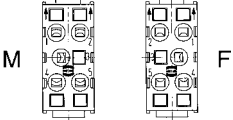


Number of contacts

5

400 V
16 A

Han-Modular

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han-Modular®, Han® ES module, Cage-clamp terminal, silver plated contacts, contact resistance ≤3 mOhm 	0.14 – 2.5	09 14 005 2616	09 14 005 2716	
Han-Modular®, Han® ES module, Cage-clamp terminal, gold plated contacts, contact resistance ≤3 mOhm	0.14 – 2.5	09 14 005 2617	09 14 005 2717	 Contact arrangement (view from termination side)

Features

- Available in two versions: for Han® C or Han E® crimp contacts
- 2 contacts up to 5000 V
- Insulator out of a voltage resistant teflon material
- Combination of all other modules (pneumatic, signal etc.)

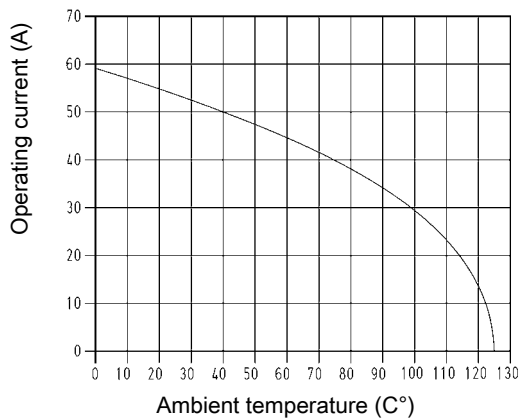
Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

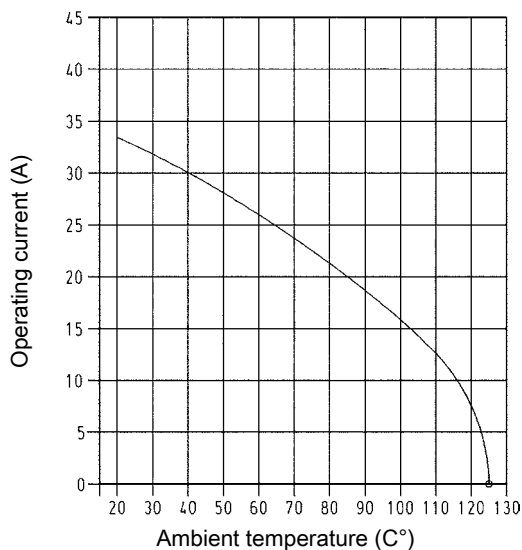
Measuring and testing techniques acc. to IEC 60512-5-2

Han® C Crimp contacts



① 24 B hoods/housings with 3 modules Wire cross section 6 mm²

Han E® crimp contacts



① Housing Han® 16 B with 1 Han® HV module Wire cross section 2.5 mm²

Technical characteristics

Contacts	2
Electrical data acc. to IEC 61984	40 A 2900/5000 V 15 kV 3 16 A 2900/5000 V 15 kV 3
Rated current	40 A, 16 A
Rated voltage conductor - ground	2900 V
Rated voltage conductor - conductor	5000 V
Rated impulse voltage	15 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate/Teflon (PTFE)
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 61984
IEC 60664-1
IEC 60352-4



Details

Crimping tools see chapter 90

Remarks on the crimp technique


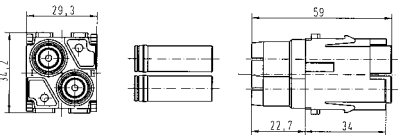
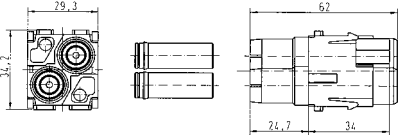
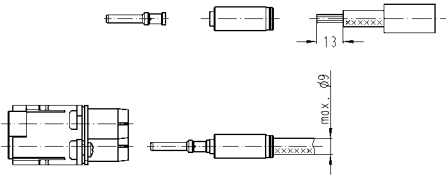

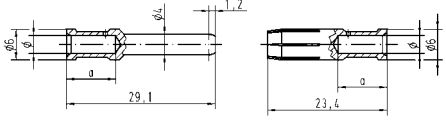
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

2

2900/5000 V
40 A


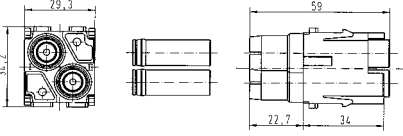
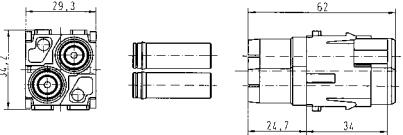
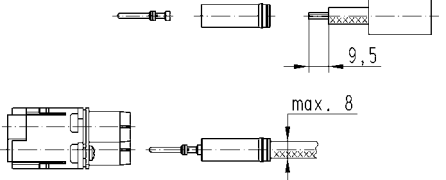
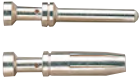
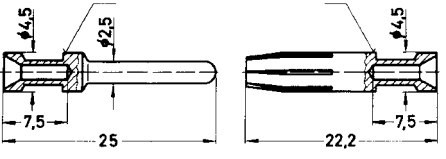
Han-Modular

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																		
		male	female																			
<p>Han-Modular®, Han® HV module, for Han® C crimp contacts, Crimp terminal ... 9 mm</p> <p>Range of delivery: 1 module, 2 locking sleeves, 2 heat shrink tubes</p>  <p>Please order crimp contacts separately.</p>		09 14 002 3023	09 14 002 3123	<p>M</p>  <p>F</p>  <p>Assembly instructions</p>  <p>Crimp with tool 09 99 000 0888, 09 99 000 0110 or 09 99 000 0377. Snap crimped cable in the insert. Shrink the heat shrink tube over the rear of contact.</p>																		
<p>Han® C, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm</p> 	<p>1.5 2.5 4 6 10</p>	<p>09 32 000 6104 09 32 000 6105 09 32 000 6107 09 32 000 6108 09 32 000 6109</p>	<p>09 32 000 6204 09 32 000 6205 09 32 000 6207 09 32 000 6208 09 32 000 6209</p>	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>Ø</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>1.5 mm² AWG 16</td> <td>1.75</td> <td>9.5 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25</td> <td>9.5 mm</td> </tr> <tr> <td>4 mm² AWG 12</td> <td>2.85</td> <td>9.5 mm</td> </tr> <tr> <td>6 mm² AWG 10</td> <td>3.5</td> <td>9.5 mm</td> </tr> <tr> <td>10 mm² AWG 8</td> <td>4.3</td> <td>12 mm</td> </tr> </tbody> </table>	Wire gauge	Ø	Stripping length	1.5 mm ² AWG 16	1.75	9.5 mm	2.5 mm ² AWG 14	2.25	9.5 mm	4 mm ² AWG 12	2.85	9.5 mm	6 mm ² AWG 10	3.5	9.5 mm	10 mm ² AWG 8	4.3	12 mm
Wire gauge	Ø	Stripping length																				
1.5 mm ² AWG 16	1.75	9.5 mm																				
2.5 mm ² AWG 14	2.25	9.5 mm																				
4 mm ² AWG 12	2.85	9.5 mm																				
6 mm ² AWG 10	3.5	9.5 mm																				
10 mm ² AWG 8	4.3	12 mm																				

Number of contacts

2

2900/5000 V
16 A

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm																																			
		male	female																																				
<p>Han-Modular®, Han® HV module, for Han E® crimp contacts, Crimp terminal</p> <p>Range of delivery: 1 module, 2 locking sleeves, 2 heat shrink tubes</p>  <p>Please order crimp contacts separately.</p>		09 14 002 3021	09 14 002 3121	<p>M</p>  <p>F</p>  <p>Assembly instructions</p>  <p>Crimp with crimping tool 09 99 000 0888 Snap crimped cable in the insert. Shrink the heat shrink tube over the rear of contact.</p>																																			
<p>Han E®, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm</p> 	<p>0.5 0.75 1 1.5 2.5 3 4</p>	<p>09 33 000 6121 09 33 000 6114 09 33 000 6105 09 33 000 6104 09 33 000 6102 09 33 000 6106 09 33 000 6107</p>	<p>09 33 000 6220 09 33 000 6214 09 33 000 6205 09 33 000 6204 09 33 000 6202 09 33 000 6206 09 33 000 6207</p>	 <table border="1"> <thead> <tr> <th>Identification</th> <th>Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>no groove</td> <td>0.14-0.37 mm²</td> <td>AWG 26-22</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>0.5 mm²</td> <td>AWG 20</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove*</td> <td>0.75 mm²</td> <td>AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove</td> <td>1 mm²</td> <td>AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>2 grooves</td> <td>1.5 mm²</td> <td>AWG 16</td> <td>7.5 mm</td> </tr> <tr> <td>3 grooves</td> <td>2.5 mm²</td> <td>AWG 14</td> <td>7.5 mm</td> </tr> <tr> <td>wide groove</td> <td>3 mm²</td> <td>AWG 12</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>4 mm²</td> <td>AWG 12</td> <td>7.5 mm</td> </tr> </tbody> </table> <p>* on the back crimp collar</p>	Identification	Wire gauge	Stripping length	no groove	0.14-0.37 mm²	AWG 26-22	7.5 mm	no groove	0.5 mm²	AWG 20	7.5 mm	1 groove*	0.75 mm²	AWG 18	7.5 mm	1 groove	1 mm²	AWG 18	7.5 mm	2 grooves	1.5 mm²	AWG 16	7.5 mm	3 grooves	2.5 mm²	AWG 14	7.5 mm	wide groove	3 mm²	AWG 12	7.5 mm	no groove	4 mm²	AWG 12	7.5 mm
Identification	Wire gauge	Stripping length																																					
no groove	0.14-0.37 mm²	AWG 26-22	7.5 mm																																				
no groove	0.5 mm²	AWG 20	7.5 mm																																				
1 groove*	0.75 mm²	AWG 18	7.5 mm																																				
1 groove	1 mm²	AWG 18	7.5 mm																																				
2 grooves	1.5 mm²	AWG 16	7.5 mm																																				
3 grooves	2.5 mm²	AWG 14	7.5 mm																																				
wide groove	3 mm²	AWG 12	7.5 mm																																				
no groove	4 mm²	AWG 12	7.5 mm																																				

Features

- Suitable for Han E® crimp contacts
- 2 contacts up to 2500 V
- Insulator out of a voltage resistant teflon material
- Combination of all other modules (pneumatic, signal etc.)

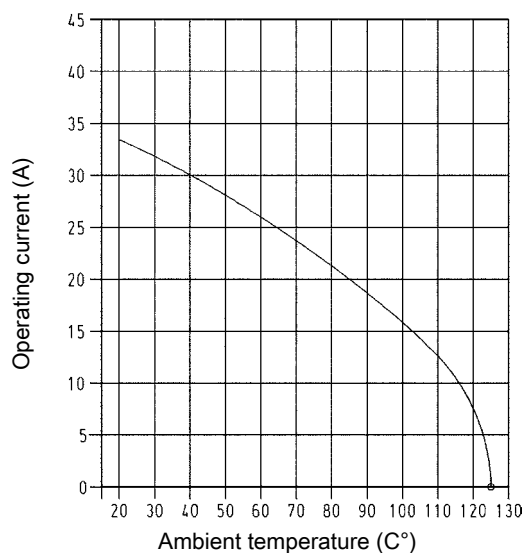
Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2

Han E® crimp contacts



① Housing Han® 16 B with 1 Han® HV module Wire cross section 2.5 mm²

Technical characteristics

Contacts	2
Electrical data acc. to IEC 61984	16 A 2500 V 15 kV 3
Rated current	16 A
Rated voltage	2500 V
Rated impulse voltage	15 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate/Teflon (PTFE)
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90


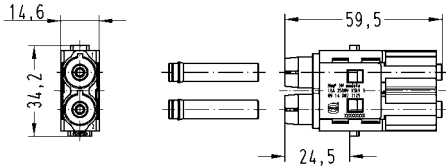
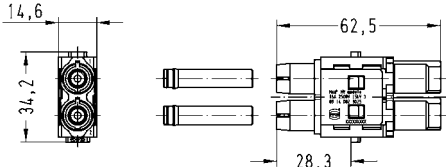

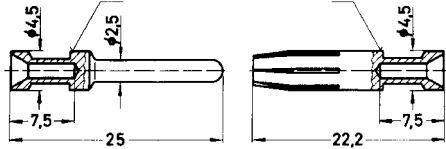
Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

2

2500 V
16 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																											
		male	female																												
Han-Modular®, Han® HV module, Crimp terminal Range of delivery: 1 module, 2 locking sleeves, 2 heat shrink tubes  Please order crimp contacts separately.		09 14 002 3025	09 14 002 3125	 																											
Han E®, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm 	0.5 0.75 1 1.5 2.5 3 4	09 33 000 6121 09 33 000 6114 09 33 000 6105 09 33 000 6104 09 33 000 6102 09 33 000 6106 09 33 000 6107	09 33 000 6220 09 33 000 6214 09 33 000 6205 09 33 000 6204 09 33 000 6202 09 33 000 6206 09 33 000 6207	 <table border="1"> <thead> <tr> <th>Identification</th> <th>Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>no groove</td> <td>0.14-0.37 mm² AWG 26-22</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>0.5 mm² AWG 20</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove*</td> <td>0.75 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove</td> <td>1 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>2 grooves</td> <td>1.5 mm² AWG 16</td> <td>7.5 mm</td> </tr> <tr> <td>3 grooves</td> <td>2.5 mm² AWG 14</td> <td>7.5 mm</td> </tr> <tr> <td>wide groove</td> <td>3 mm² AWG 12</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>4 mm² AWG 12</td> <td>7.5 mm</td> </tr> </tbody> </table> <p>* on the back crimp collar</p>	Identification	Wire gauge	Stripping length	no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm	no groove	0.5 mm ² AWG 20	7.5 mm	1 groove*	0.75 mm ² AWG 18	7.5 mm	1 groove	1 mm ² AWG 18	7.5 mm	2 grooves	1.5 mm ² AWG 16	7.5 mm	3 grooves	2.5 mm ² AWG 14	7.5 mm	wide groove	3 mm ² AWG 12	7.5 mm	no groove	4 mm ² AWG 12	7.5 mm
Identification	Wire gauge	Stripping length																													
no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm																													
no groove	0.5 mm ² AWG 20	7.5 mm																													
1 groove*	0.75 mm ² AWG 18	7.5 mm																													
1 groove	1 mm ² AWG 18	7.5 mm																													
2 grooves	1.5 mm ² AWG 16	7.5 mm																													
3 grooves	2.5 mm ² AWG 14	7.5 mm																													
wide groove	3 mm ² AWG 12	7.5 mm																													
no groove	4 mm ² AWG 12	7.5 mm																													

Han-Modular

Features

- Han-Quick Lock[®] or Crimp terminal available
- Standard module for signal up to 10 A

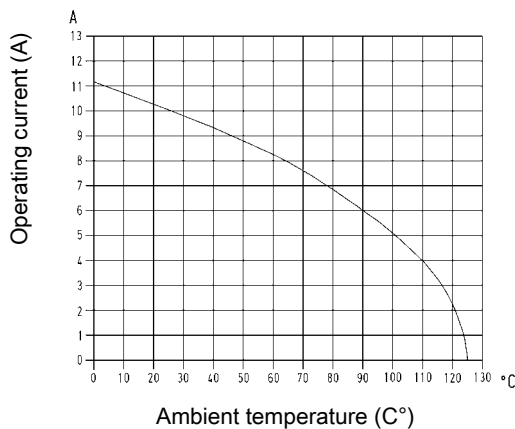
Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

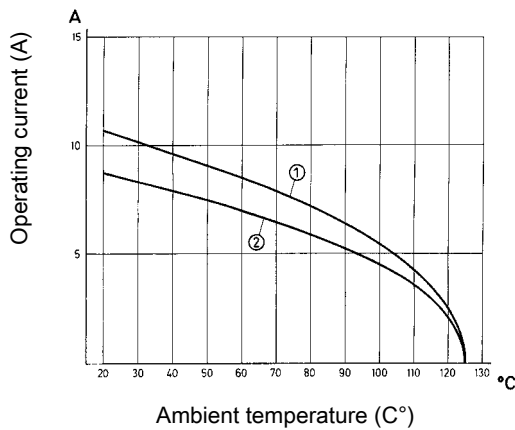
Measuring and testing techniques acc. to IEC 60512-5-2

Quick Lock termination



① 24 B hoods/housings with 6 modules Wire cross section 1.5 mm²

Crimp terminal



① 24 B hoods/housings with 6 modules Wire cross section 1.5 mm²

② 24 B hoods/housings with 6 modules Wire cross section 1 mm²

Technical characteristics

Contacts	12
Electrical data acc. to IEC 61984	black slide 10 A 250 V 4 kV 3 10 A 250 V 4 kV 3
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Mating cycles with HMC contacts	≥10000
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique

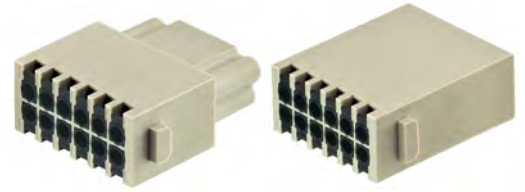
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

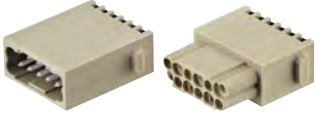
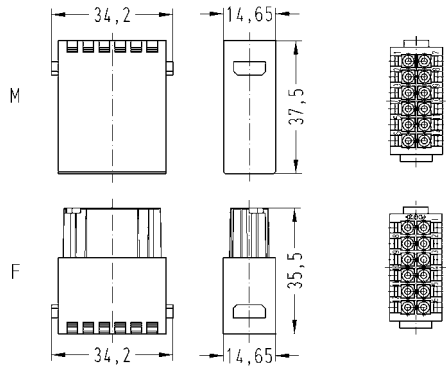
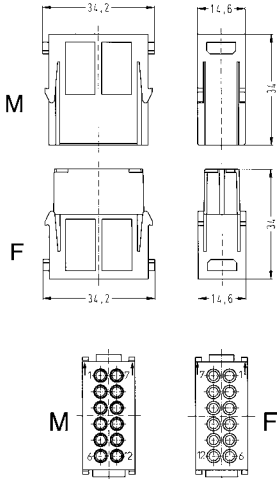
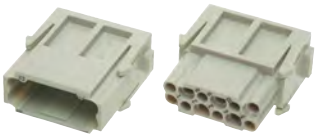
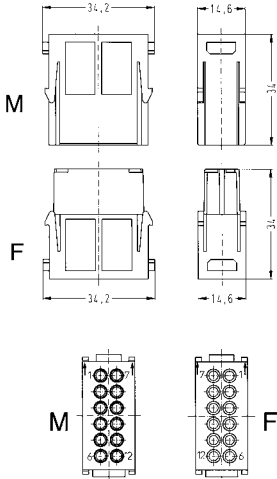
Designed for 10,000 mating cycles (only with Han D[®] HMC crimp contacts and with Han-Modular[®] Docking frame)

Number of contacts


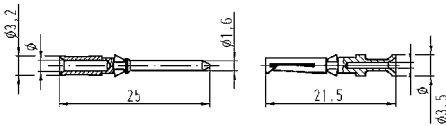

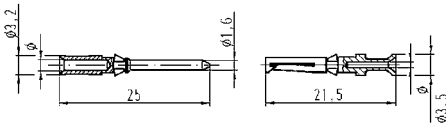

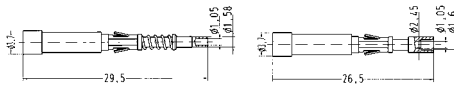
12+

250 V
10 A



Identification	Wire cross section (mm²)	Part number male female		Drawing Dimensions in mm
<p> Han-Quick Lock® Han-Modular®, Han DD® module, Han-Quick Lock® termination, black slide, silver plated contacts, contact resistance ≤3 mOhm</p> 	0.25 – 1.5	09 14 012 2632	09 14 012 2732	 <p>Contact arrangement (view from termination side)</p>
<p> Han-Quick Lock® Han-Modular®, Han DD® module, Han-Quick Lock® termination, black slide, gold plated contacts, contact resistance ≤3 mOhm</p>	0.25 – 1.5	09 14 012 2634	09 14 012 2734	 <p>Contact arrangement (view from termination side)</p>
<p>Han-Modular®, Han DD® module, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 14 012 3001	09 14 012 3101	 <p>Contact arrangement (view from termination side)</p>

Han-Modular

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																					
		male	female																						
Han D®, Crimp contact, gold plated contacts, contact resistance ≤3 mOhm 	0.14–0.37	09 15 000 6124	09 15 000 6224	 <table border="1" data-bbox="1008 499 1465 658"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
	Wire gauge	∅	Stripping length																						
	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																						
	0.5 mm ² AWG 20	1.1 mm	8 mm																						
	0.75 mm ² AWG 18	1.3 mm	8 mm																						
	1 mm ² AWG 18	1.45 mm	8 mm																						
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							
0.5	09 15 000 6123	09 15 000 6223																							
0.75	09 15 000 6125	09 15 000 6225																							
1	09 15 000 6122	09 15 000 6222																							
1.5	09 15 000 6121	09 15 000 6221																							
2.5	09 15 000 6126	09 15 000 6226																							
Han D®, Crimp contact, silver plated contacts, contact resistance ≤3 mOhm 	0.14–0.37	09 15 000 6104	09 15 000 6204	 <table border="1" data-bbox="1008 864 1465 1023"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
	Wire gauge	∅	Stripping length																						
	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																						
	0.5 mm ² AWG 20	1.1 mm	8 mm																						
	0.75 mm ² AWG 18	1.3 mm	8 mm																						
	1 mm ² AWG 18	1.45 mm	8 mm																						
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							
0.5	09 15 000 6103	09 15 000 6203																							
0.75	09 15 000 6105	09 15 000 6205																							
1	09 15 000 6102	09 15 000 6202																							
1.5	09 15 000 6101	09 15 000 6201																							
2.5	09 15 000 6106	09 15 000 6206																							
F.O. contact  for 1 mm plastic fibre		20 10 001 3211	20 10 001 3221	 <p>20 10 001 3211 + 20 10 001 3221</p>																					

Han-Modular

Features

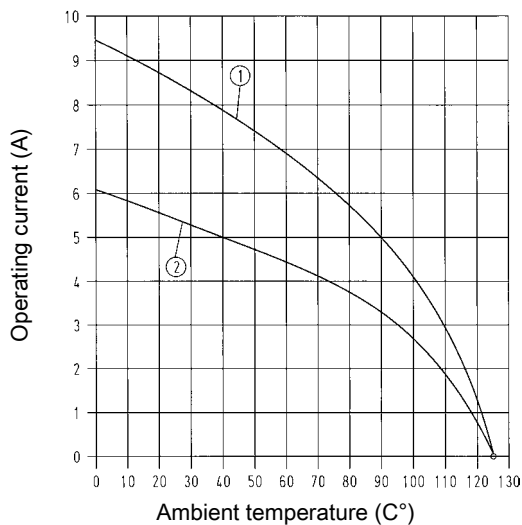
- Suitable for Han D[®] crimp contacts
- High contact density

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① 24 B hoods/housings with 6 modules Wire cross section 1.5 mm²
- ② 24 B hoods/housings with 6 modules Wire cross section 1 mm²

Technical characteristics

Contacts	17
Electrical data acc. to IEC 61984	10 A 160 V 2.5 kV 3
Rated current	10 A
Rated voltage	160 V
Rated impulse voltage	2.5 kV
Pollution degree	3
Rated voltage acc. to UL	250 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Mating cycles with HMC contacts	≥10000
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.


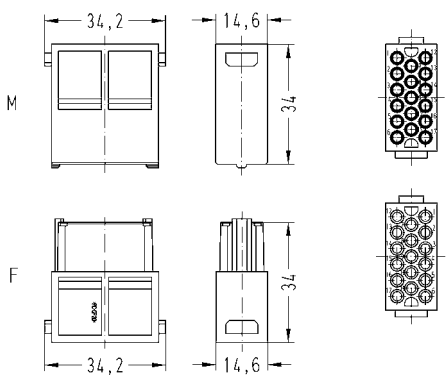

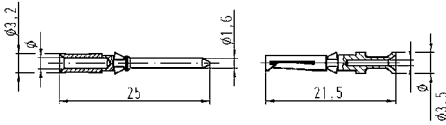

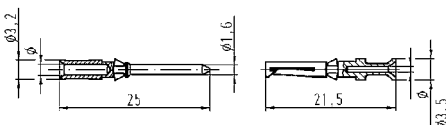

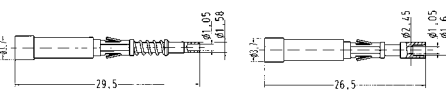
Designed for 10,000 mating cycles (only with Han D[®] HMC crimp contacts and with Han-Modular[®] Docking frame)

Number of contacts

17

160 V
10 A

Han-
Modular

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																					
		male	female																						
Han-Modular®, Han® DDD module, Crimp terminal  Please order crimp contacts separately.		09 14 017 3001	09 14 017 3101	 Contact arrangement (view from termination side)																					
Han D®, Crimp contact, gold plated contacts, contact resistance ≤3 mOhm 	0.14 – 0.37 0.5 0.75 1 1.5 2.5	09 15 000 6124 09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121 09 15 000 6126	09 15 000 6224 09 15 000 6223 09 15 000 6225 09 15 000 6222 09 15 000 6221 09 15 000 6226	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
Wire gauge	∅	Stripping length																							
0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																							
0.5 mm ² AWG 20	1.1 mm	8 mm																							
0.75 mm ² AWG 18	1.3 mm	8 mm																							
1 mm ² AWG 18	1.45 mm	8 mm																							
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							
Han D®, Crimp contact, silver plated contacts, contact resistance ≤3 mOhm 	0.14 – 0.37 0.5 0.75 1 1.5 2.5	09 15 000 6104 09 15 000 6103 09 15 000 6105 09 15 000 6102 09 15 000 6101 09 15 000 6106	09 15 000 6204 09 15 000 6203 09 15 000 6205 09 15 000 6202 09 15 000 6201 09 15 000 6206	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
Wire gauge	∅	Stripping length																							
0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																							
0.5 mm ² AWG 20	1.1 mm	8 mm																							
0.75 mm ² AWG 18	1.3 mm	8 mm																							
1 mm ² AWG 18	1.45 mm	8 mm																							
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							
F.O. contact  for 1 mm plastic fibre		20 10 001 3211	20 10 001 3221	 20 10 001 3211 + 20 10 001 3221																					

Features

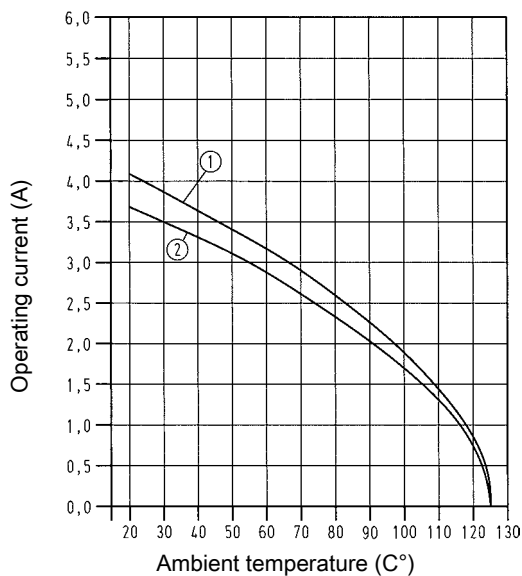
- Suitable for D-Sub crimp contacts
- High contact density

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① 24 B hoods/housings with 6 modules; turned contacts Wire cross section 0.5 mm²
 ② 24 B hoods/housings with 6 modules; stamped contacts Wire cross section 0.5 mm²

Technical characteristics

Contacts	25
Electrical data acc. to IEC 61984	4 A 50 V 0.8 kV 3
Rated current	4 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Rated voltage acc. to UL	30 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals

IEC 60664-1
 IEC 61984



Details


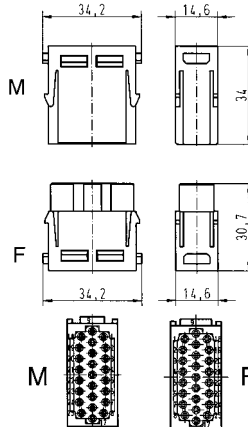

Guide pins and bushes are recommended (see chapter 80).

Number of contacts

25

50 V
4 A

Han-
Modular

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm												
		male	female													
Han-Modular®, Han® High Density module, Crimp terminal  Please order crimp contacts separately.		09 14 025 3001	09 14 025 3101	 Contact arrangement (view from termination side)												
Han® D-Sub crimp contact, turned contacts 	0.09–0.25 0.13–0.33 0.25–0.52	09 67 000 7576 09 67 000 5576 09 67 000 8576	09 67 000 7476 09 67 000 5476 09 67 000 8476	<table border="1"> <thead> <tr> <th>Wire gauge</th> <th>max. insulation diameter</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.09-0.25 mm²</td> <td>1.7</td> <td>4 mm</td> </tr> <tr> <td>0.13-0.33 mm²</td> <td>1.7</td> <td>4 mm</td> </tr> <tr> <td>0.25-0.52 mm²</td> <td>1.7</td> <td>4 mm</td> </tr> </tbody> </table>	Wire gauge	max. insulation diameter	Stripping length	0.09-0.25 mm²	1.7	4 mm	0.13-0.33 mm²	1.7	4 mm	0.25-0.52 mm²	1.7	4 mm
Wire gauge	max. insulation diameter	Stripping length														
0.09-0.25 mm²	1.7	4 mm														
0.13-0.33 mm²	1.7	4 mm														
0.25-0.52 mm²	1.7	4 mm														

Features

- 9-pin D-Sub connector of the Han-Modular® system
- Suitable for the transmission of sensitive signals
- Compatible to crimp, solder or IDC termination

Technical characteristics

Contacts	9
Electrical data acc. to IEC 61984	5 A 50 V 0.8 kV 3
Rated current	5 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Rated voltage acc. to UL	30 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (shielding element)	zinc die-cast alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details


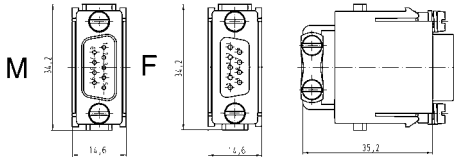

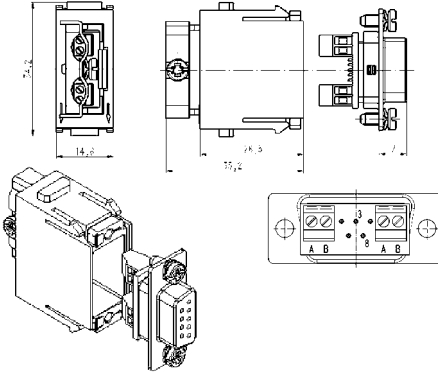

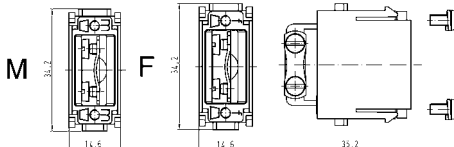

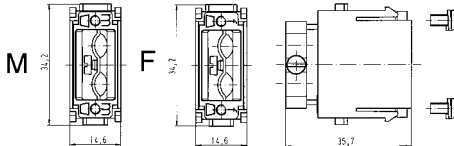
Guide pins and bushes are recommended (see chapter 80).


Number of contacts

9

50 V
5 A

Han-Modular

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm
		male	female	
Han-Modular®, Han® D-Sub module, Crimp terminal  Please order crimp contacts separately.		09 14 009 3001	09 14 009 3101	
Han-Modular®, Han® D-Sub module, for RS 485-based bus systems with T-functionality, Screw terminal 	0.08–0.52		09 14 009 3151	 Contact arrangement (view from termination side) Signal A: Contact no. 8 Signal B: Contact no. 3
Han-Modular®, Adapter module, for one cabel, for 9-pin D-Sub 		09 14 000 9930	09 14 000 9931	
Han-Modular®, Adapter module, for two cabels, for 9-pin D-Sub 		09 14 000 9932	09 14 000 9933	

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm												
		male	female													
Han® D-Sub crimp contact, turned contacts 	0.09 – 0.25	09 67 000 7576	09 67 000 7476	<table border="1"> <thead> <tr> <th>Wire gauge</th> <th>max. insulation diameter</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.09-0.25 mm²</td> <td>1.7</td> <td>4 mm</td> </tr> <tr> <td>0.13-0.33 mm²</td> <td>1.7</td> <td>4 mm</td> </tr> <tr> <td>0.25-0.52 mm²</td> <td>1.7</td> <td>4 mm</td> </tr> </tbody> </table>	Wire gauge	max. insulation diameter	Stripping length	0.09-0.25 mm ²	1.7	4 mm	0.13-0.33 mm ²	1.7	4 mm	0.25-0.52 mm ²	1.7	4 mm
	Wire gauge	max. insulation diameter	Stripping length													
	0.09-0.25 mm ²	1.7	4 mm													
0.13-0.33 mm ²	1.7	4 mm														
0.25-0.52 mm ²	1.7	4 mm														
0.13 – 0.33	09 67 000 5576	09 67 000 5476														
0.25 – 0.52	09 67 000 8576	09 67 000 8476														

Features

- According to USB 2.0 / USB 3.0 specification
- Simple and cost effective termination by plug in patch cable
- Cable tie strain relief

Technical characteristics

Contacts	4, 8
Electrical data acc. to IEC 61984	1 A 50 V 0.8 kV 3
Rated current	1 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Rated voltage acc. to UL	30 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals


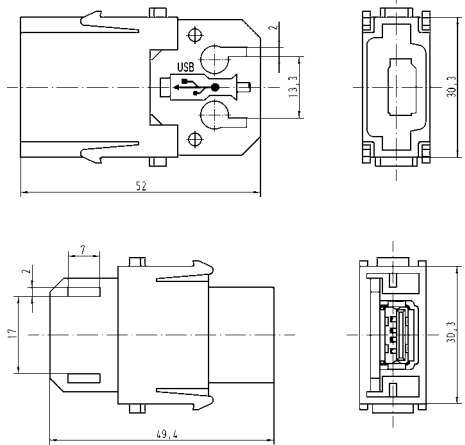
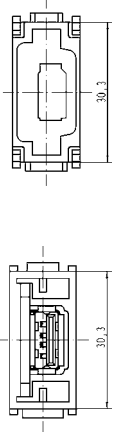

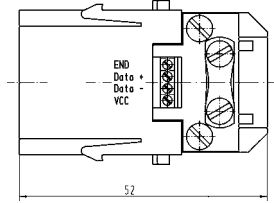
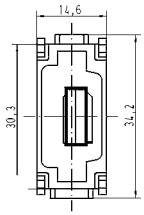

IEC 60664-1
IEC 61984



Number of contacts

4,8

50 V
1 A

Identification	Part number		Drawing	
	male	female	Dimensions in mm	
Han-Modular®, Han® USB module, Module for patch cable, USB 2.0 	09 14 001 4601	09 14 001 4701		
Han-Modular®, Han® USB module, Module for screw termination, USB 2.0 	09 14 001 4651			
Han-Modular®, Han® USB module, Module for patch cable, USB 3.0 		09 14 001 4703		

Han-Modular

Number of contacts

6

50 V
1 A

Features

- Compatible to IEEE 1394
- Simple and cost effective termination by plug in patch cable
- Cable tie strain relief

Technical characteristics


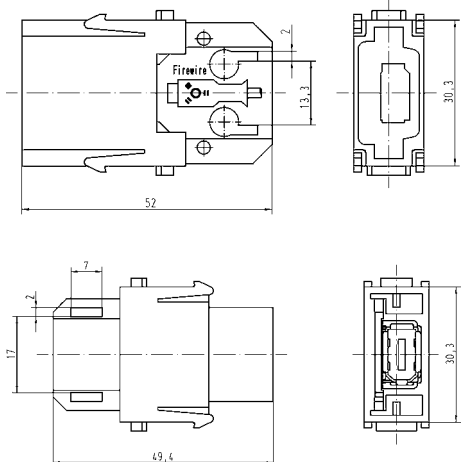
Contacts	6
Electrical data acc. to IEC 61984	1 A 50 V 0.8 kV 3
Rated current	1 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals

IEC 60664-1
IEC 61984



Han-Modular

Identification	Part number		Drawing	
	male	female	Dimensions in mm	
Han-Modular®, Han® FireWire module, Module for patch cable 	09 14 001 4611	09 14 001 4711		

Number of contacts

8

50 V
1 A

Features

- Single module with standard shielded RJ45 plug and jack
- Cat 6 for all data pairs (all 8 pins)
- RoHS compliant
- Patch cables are assembled/removed without tools

Technical characteristics

Contacts	8
Electrical data acc. to IEC 61984	1 A 50 V 0.8 kV 3
Rated current	1 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Rated voltage acc. to UL	30 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 70 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Transmission characteristics	Category 6 / Class E up to 250 MHz, according to ISO/IEC 11801:2002 and EN 50 173-1
Data rate copper	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s, 10000 Mbit/s

Han-Modular

Specifications and approvals

IEC 60664-1
IEC 61984



Identification

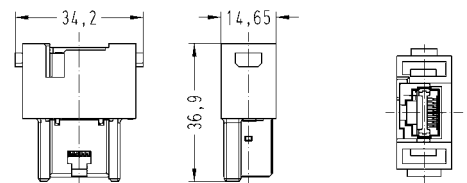
Han-Modular®,
Han® RJ45 module,
Gender changer,
for patch cable,
Cat. 6



Part number

09 14 001 4721

Drawing Dimensions in mm



Number of contacts

8

50 V
1 A

Features

- Single module with standard shielded RJ45 plug and jack
- RoHS compliant
- The RJ45 inserts are protected by a reliable plastic insulator
- Patch cables are assembled/removed without tools

Technical characteristics

Contacts	8
Electrical data acc. to IEC 61984	1 A 50 V 0.8 kV 3
Rated current	1 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Rated voltage acc. to UL	30 V
Insulation resistance	$\geq 10^{10}$ Ohm
Limiting temperatures	-40 °C ... 70 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥ 500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals

IEC 60664-1
IEC 61984



Identification

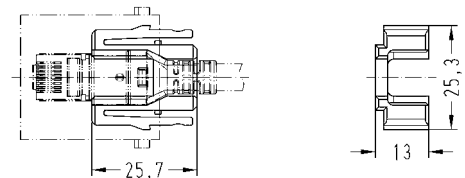
Part number

Drawing Dimensions in mm

Han-Modular®,
Adapter,
for patch cable



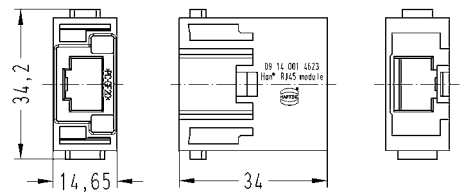
09 14 000 9966



Han-Modular®,
Han® RJ45 module,
for adapter



09 14 001 4623



Number of contacts

8

50 V
1 A

Features

- Single module with standard shielded RJ45 plug and jack
- RoHS compliant
- The RJ45 inserts are protected by a reliable plastic insulator

Technical characteristics

Contacts	8
Electrical data acc. to IEC 61984	1 A 50 V 0.8 kV 3
Rated current	1 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Rated voltage acc. to UL	30 V
Insulation resistance	$\geq 10^{10}$ Ohm
Limiting temperatures	-40 °C ... 70 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥ 500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals

IEC 60664-1
IEC 61984



Han-
Modular

Identification

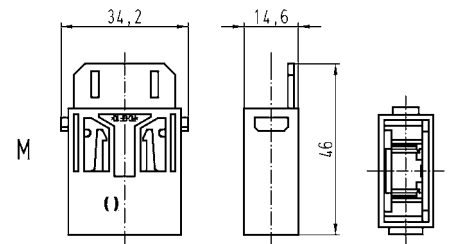
Han-Modular®,
Han® RJ45 module,
for crimp inserts



Part number

09 14 001 4622

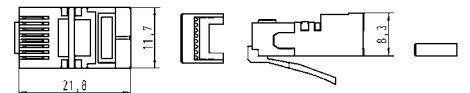
Drawing Dimensions in mm



Han-Modular®,
Insert for Han® RJ45 module,
Cat. 5e



09 12 000 9958



Number of contacts

4,8

50 V
1 A

Features

- Single module with standard shielded RJ45 plug and jack
- The RJ45 inserts are protected by a reliable plastic insulator
- 360° shielded contact
- Field assembly without tools possible by means of HARAX® rapid termination in IDC technology
- Gigalink: Field assembly by means of piercing contacts
- Suitable for termination of massive and flexible wires
- Gigalink: Suitable for termination of flexible wires

Technical characteristics

Contacts	8, 4
Electrical data acc. to IEC 61984	1 A 50 V 0.8 kV 3
Rated current	1 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Rated voltage acc. to UL	30 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 70 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate, polyamide
Colour (insert)	RAL 7032 (light grey)
Transmission characteristics	Category 6a / Class EA up to 500 MHz, according to ISO/IEC 11 801:2002 and EN 50 173-1, Category 5 / Class D up to 100 MHz, according to ISO/IEC 11 801:2002 and EN 50 173-1, Category 6 / Class E up to 250 MHz, according to ISO/IEC 11 801:2002 and EN 50 173-1
Data rate copper	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s, 10000 Mbit/s

Specifications and approvals

IEC 60664-1
IEC 61984
IEC 60603-7



Identification

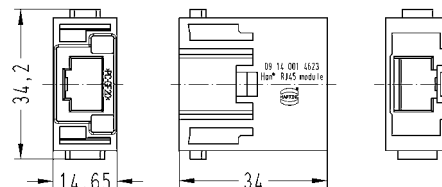
Han-Modular®,
Han® RJ45 module,
for adapter


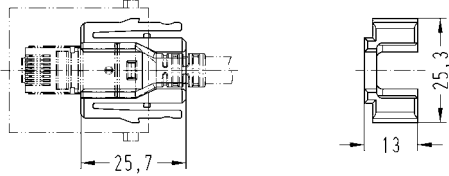

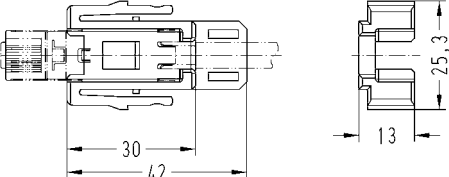

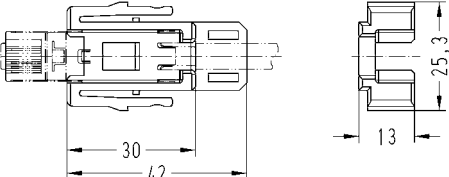

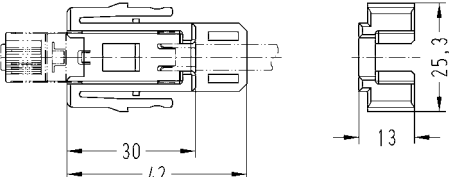


Part number

09 14 001 4623

Drawing Dimensions in mm



Identification	Part number	Drawing Dimensions in mm
<p>Han-Modular®, Han® RJ Industrial adapter, RJ Industrial RJ45 Gigalink connector set, AWG 28 ... 24, 10 Mbit/s, 100 Mbit/s, 1000 Mbit/s, 10000 Mbit/s, IDC contacts, Cat. 6a</p> 	09 45 400 1520	 <p>Wire outside diameter ≤ 1.05 mm</p>
<p>Han-Modular®, Han® RJ Industrial adapter, RJ Industrial RJ45 connector set, AWG 24 ... 22, 10 Mbit/s, 100 Mbit/s, IDC contacts, Cat. 5</p> 	09 45 400 1100	 <p>Wire outside diameter ≤ 1.6 mm</p>
<p>Han-Modular®, Han® RJ Industrial adapter, RJ Industrial RJ45 connector set, AWG 26, 10 Mbit/s, 100 Mbit/s, IDC contacts, Cat. 5</p> 	09 45 400 1109	 <p>Wire outside diameter ≤ 1.6 mm</p>
<p>Han-Modular®, Han® RJ Industrial adapter, RJ Industrial RJ45 connector set, AWG 27 ... 22, 10 Mbit/s, 100 Mbit/s, 1000 Mbit/s, 10000 Mbit/s, IDC contacts, Cat. 6</p> 	09 45 400 1560	 <p>Wire outside diameter ≤ 1.5 mm</p>



Features

- Locking lever protection for RJ45 connector latch
- Very short plug design in combination with robust bend protection
- RoHS compliant
- Fully EMC screened (aluminium-clad foil and braid)

Technical characteristics

Limiting temperatures	-40 °C ... 80 °C
Limiting temperatures (flexible)	0 °C ... 60 °C
Flammability (cable) acc. to UL 94	flame retardant, halogen-free
Degree of protection acc. to IEC 60529	IP20
Material (cable)	SF/UTP, PUR, PUR Elastomer yellow
Colour (cable)	1:1 EIA/TIA 568 B, 8 poles
Cable type, copper	Category 5 / Class D up to 100 MHz, according to ISO/IEC 24702 or ISO/IEC 11 801, Category 5e / Class D up to 100 MHz, according to ISO/IEC 61 935-2
Transmission characteristics	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s
Data rate copper	

Specifications and approvals

ISO/IEC 11801
 ISO/IEC 24702
 ISO/IEC 61935-2

Identification

RJ45 patch cable,
 Cat. 5e



Cable length

- 0.2 m
- 0.3 m
- 0.4 m
- 0.5 m
- 0.6 m
- 0.7 m
- 0.8 m
- 0.9 m
- 1 m
- 2 m
- 3 m
- 4 m
- 5 m
- 6 m
- 7 m
- 8 m
- 9 m
- 10 m
- 15 m
- 20 m
- 1.5 m
- 2.5 m
- 7.5 m

Part number

- 09 47 474 7001
- 09 47 474 7002
- 09 47 474 7003
- 09 47 474 7004
- 09 47 474 7005
- 09 47 474 7006
- 09 47 474 7007
- 09 47 474 7008
- 09 47 474 7009
- 09 47 474 7011
- 09 47 474 7013
- 09 47 474 7014
- 09 47 474 7015
- 09 47 474 7016
- 09 47 474 7017
- 09 47 474 7019
- 09 47 474 7020
- 09 47 474 7021
- 09 47 474 7022
- 09 47 474 7023
- 09 47 474 7010
- 09 47 474 7012
- 09 47 474 7018

Drawing Dimensions in mm





Features

- Locking lever protection for RJ45 connector latch
- Very short plug design in combination with robust bend protection
- RoHS compliant
- Fully EMC screened (aluminium-clad foil and braid)

Technical characteristics

Limiting temperatures	-40 °C ... 80 °C
Limiting temperatures (flexible)	0 °C ... 60 °C
Flammability (cable) acc. to UL 94	flame retardant, halogen-free
Degree of protection acc. to IEC 60529	IP20
Material (cable)	SF/UTP, PUR
Colour (cable)	yellow
Cable type, copper	1:1 EIA/TIA 568 B, 8 poles
Transmission characteristics	Category 6 / Class E up to 250 MHz, according to ISO/IEC 24702 or ISO/IEC 11 801, Category 6 / Class E up to 250 MHz, according to ISO/IEC 61 935-2
Data rate copper	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Specifications and approvals

ISO/IEC 11801
ISO/IEC 24702
ISO/IEC 61935-2

Han-Modular

Identification	Cable length	Part number	Drawing Dimensions in mm
RJ45 patch cable, Cat. 6	0.2 m	09 47 474 7101	
	0.3 m	09 47 474 7102	
	0.4 m	09 47 474 7103	
	0.5 m	09 47 474 7104	
	0.6 m	09 47 474 7105	
	0.7 m	09 47 474 7106	
	0.8 m	09 47 474 7107	
	0.9 m	09 47 474 7108	
	1 m	09 47 474 7109	
	2 m	09 47 474 7111	
	3 m	09 47 474 7113	
	4 m	09 47 474 7114	
	5 m	09 47 474 7115	
	6 m	09 47 474 7116	
	7 m	09 47 474 7117	
	8 m	09 47 474 7119	
	9 m	09 47 474 7120	
	10 m	09 47 474 7121	
	15 m	09 47 474 7122	
	20 m	09 47 474 7123	
1.5 m	09 47 474 7110		
2.5 m	09 47 474 7112		
7.5 m	09 47 474 7118		

Features

- Shielding bus separate from housing potential
- Suitable for the transmission of sensitive signals (e.g. bus signals)
- Usable for Gigabit Ethernet Cat. 6A

Technical characteristics

Contacts	8
Electrical data acc. to IEC 61984	5 A 50 V 0.8 kV 3
Rated current	5 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Insulation resistance	$\geq 10^{10}$ Ohm
Limiting temperatures	-40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥ 500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (shielding element)	zinc die-cast alloy
Material (outer conductor)	zinc alloy
Surface (outer conductor)	nickel plated contacts

Specifications and approvals


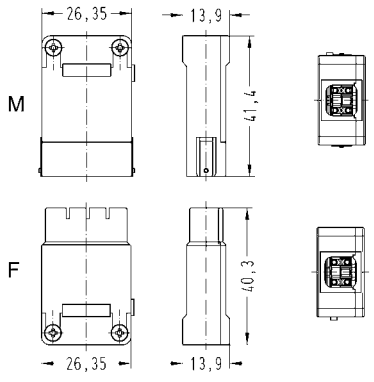


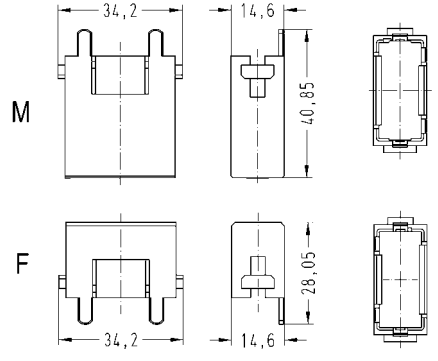
IEC 61984
IEC 60664-1



Number of contacts

8

50 V
5 A
+ shielding

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm												
<p>Han-Modular®, Han® GigaBit Insert, Crimp terminal</p>  <p>Please order crimp contacts separately. Please order the adapter module separately.</p>		09 14 008 3011	09 14 008 3111	 <p>Cable outside diameter 5 ... 12</p>												
<p>Han-Modular®, Adapter module</p>  <p>Han® D-Sub crimp contact, turned contacts</p> 	<p>0.09 – 0.25 0.13 – 0.33 0.25 – 0.52</p>	<p>09 14 001 3011</p> <p>09 67 000 7576 09 67 000 5576 09 67 000 8576</p>	<p>09 14 001 3111</p> <p>09 67 000 7476 09 67 000 5476 09 67 000 8476</p>	 <table border="1" data-bbox="1037 1545 1500 1680"> <thead> <tr> <th>Wire gauge</th> <th>max. insulation diameter</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.09-0.25 mm²</td> <td>1.7</td> <td>4 mm</td> </tr> <tr> <td>0.13-0.33 mm²</td> <td>1.7</td> <td>4 mm</td> </tr> <tr> <td>0.25-0.52 mm²</td> <td>1.7</td> <td>4 mm</td> </tr> </tbody> </table>	Wire gauge	max. insulation diameter	Stripping length	0.09-0.25 mm ²	1.7	4 mm	0.13-0.33 mm ²	1.7	4 mm	0.25-0.52 mm ²	1.7	4 mm
Wire gauge	max. insulation diameter	Stripping length														
0.09-0.25 mm ²	1.7	4 mm														
0.13-0.33 mm ²	1.7	4 mm														
0.25-0.52 mm ²	1.7	4 mm														

Han-Modular

Features

- Shielding bus separate from housing potential
- Suitable for the transmission of sensitive signals (e.g. bus signals)

Technical characteristics

Contacts	20
Electrical data acc. to IEC 61984	4 A 32 V 0.8 V 3
Rated current	4 A
Rated voltage	32 V
Rated impulse voltage	0.8 V
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C -40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Material (shielding element)	zinc die-cast alloy
Material (outer conductor)	zinc alloy
Surface (outer conductor)	nickel plated contacts

Specifications and approvals


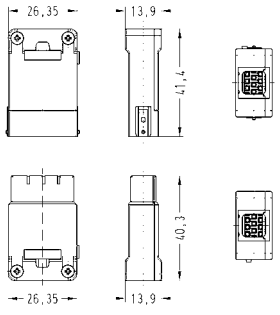


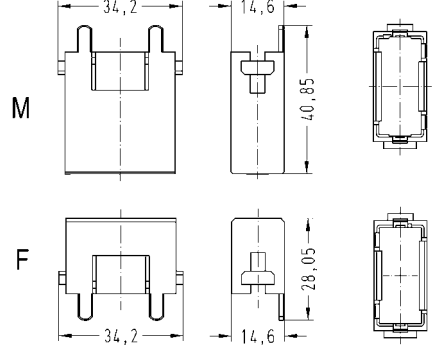
IEC 60664-1
IEC 61984



Number of contacts

20

32 V
4 A
+ shielding

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm												
		male	female													
Han-Modular®, Han® Shielded Module insert, Crimp terminal, contact resistance ≤4 mOhm  Please order crimp contacts separately. Please order the adapter module separately.		09 14 020 3013	09 14 020 3113													
Han-Modular®, Adapter module  Han® D-Sub crimp contact, turned contacts 	0.09–0.25 0.13–0.33 0.25–0.52	09 14 001 3011 09 67 000 7576 09 67 000 5576 09 67 000 8576	09 14 001 3111 09 67 000 7476 09 67 000 5476 09 67 000 8476	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>max. insulation diameter</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.09-0.25 mm²</td> <td>1.7</td> <td>4 mm</td> </tr> <tr> <td>0.13-0.33 mm²</td> <td>1.7</td> <td>4 mm</td> </tr> <tr> <td>0.25-0.52 mm²</td> <td>1.7</td> <td>4 mm</td> </tr> </tbody> </table>	Wire gauge	max. insulation diameter	Stripping length	0.09-0.25 mm ²	1.7	4 mm	0.13-0.33 mm ²	1.7	4 mm	0.25-0.52 mm ²	1.7	4 mm
Wire gauge	max. insulation diameter	Stripping length														
0.09-0.25 mm ²	1.7	4 mm														
0.13-0.33 mm ²	1.7	4 mm														
0.25-0.52 mm ²	1.7	4 mm														

Han-Modular

Features

- Shielding bus separate from housing potential
- Usable for MegaBit Ethernet Cat. 5e
- Suitable for Han B, Han M, Han EMC and Han HPR hoods/housings, high construction

Technical characteristics

Contacts	2 x 4
Electrical data acc. to IEC 61984	10 A 50 V 0.8 kV 3
Rated current	10 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C -40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Material (shielding element)	zinc die-cast alloy
Material (outer conductor)	zinc alloy
Surface (outer conductor)	nickel plated contacts

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90


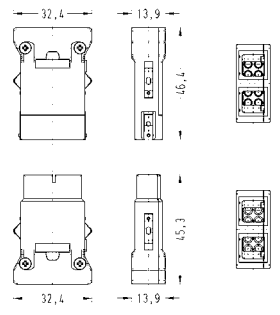


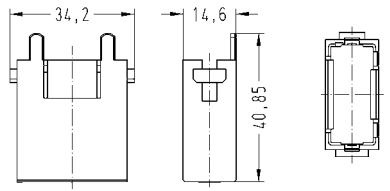
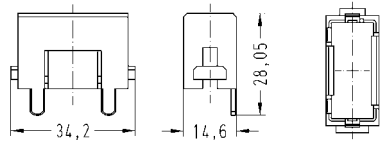
Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.


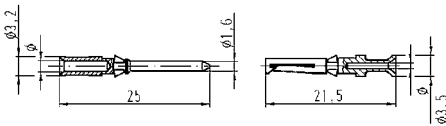
Number of contacts


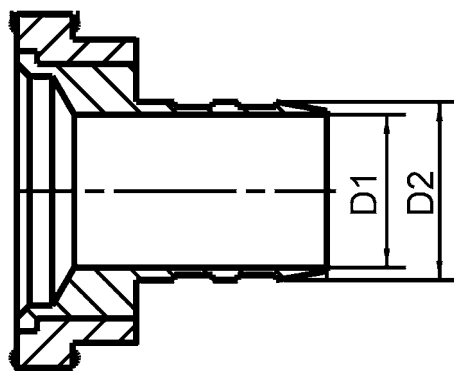
2 x 4

50 V
10 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
<p>Han-Modular®, Han® MegaBit Insert, Crimp terminal</p>  <p>Please order crimp contacts separately. Please order the adapter module separately.</p>		09 14 008 3016	09 14 008 3116	
<p>Han-Modular®, Han® MegaBit Insert, Crimp terminal, with additional shield connection to the hinged frame</p>  <p>Please order crimp contacts separately. Please order the adapter module separately.</p>		09 14 008 3017	09 14 008 3117	
<p>Han-Modular®, Adapter module</p> 		09 14 001 3011	09 14 001 3111	<p>M</p>  <p>F</p> 


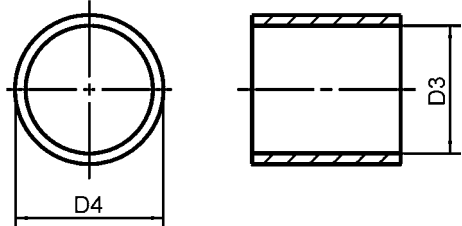

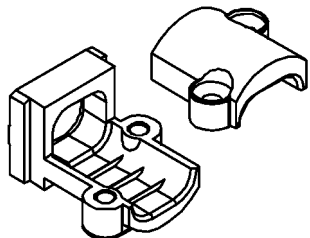


Han-Modular

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																					
		male	female																						
Han D®, Crimp contact, gold plated contacts, contact resistance ≤3 mOhm 	0.14–0.37	09 15 000 6124	09 15 000 6224	 <table border="1" data-bbox="1008 497 1465 660"> <thead> <tr> <th>Wire gauge</th> <th>Ø</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	Ø	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
	Wire gauge	Ø	Stripping length																						
	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																						
	0.5 mm ² AWG 20	1.1 mm	8 mm																						
	0.75 mm ² AWG 18	1.3 mm	8 mm																						
	1 mm ² AWG 18	1.45 mm	8 mm																						
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							
0.5	09 15 000 6123	09 15 000 6223																							
0.75	09 15 000 6125	09 15 000 6225																							
1	09 15 000 6122	09 15 000 6222																							
1.5	09 15 000 6121	09 15 000 6221																							
2.5	09 15 000 6126	09 15 000 6226																							

Identification	D1	D2	Part number	Drawing Dimensions in mm
<p data-bbox="119 607 263 645">Crimp flange</p>  <p data-bbox="119 817 462 918">HARTING offers to test and define the best crimp flange and ferrule combination for customer specific cables.</p>	<p data-bbox="486 607 566 929">3 mm 4 mm 5 mm 6 mm 7 mm 8 mm 9 mm 3.5 mm 4.5 mm 5.5 mm 6.5 mm 7.5 mm 8.5 mm</p>	<p data-bbox="647 607 742 929">4 mm 5 mm 6 mm 7 mm 8 mm 9 mm 10 mm 4 mm 5.5 mm 6.5 mm 7.5 mm 8.5 mm 9.5 mm</p>	<p data-bbox="804 607 976 929">61 03 000 0062 61 03 000 0064 61 03 000 0066 61 03 000 0067 61 03 000 0069 61 03 000 0071 61 03 000 0072 61 03 000 0063 61 03 000 0065 61 03 000 0166 61 03 000 0068 61 03 000 0070 61 03 000 0165</p>	

Han-Modular

Han-Modular

Identification	D3	D4	Part number	Drawing Dimensions in mm
<p>Crimp ferrule</p>  <p>HARTING offers to test and define the best crimp flange and ferrule combination for customer specific cables.</p>	5 mm 6 mm 7 mm 8 mm 9 mm 10 mm 11 mm 12 mm 13 mm 5.5 mm 6.5 mm 7.5 mm 8.5 mm 9.5 mm 10.5 mm 11.5 mm 12.5 mm	6 mm 7 mm 8 mm 9 mm 10 mm 11 mm 12 mm 13 mm 14 mm 6.5 mm 7.5 mm 8.5 mm 9.5 mm 10.5 mm 11.5 mm 12.5 mm 13.5 mm	61 03 000 0045 61 03 000 0047 61 03 000 0049 61 03 000 0051 61 03 000 0053 61 03 000 0055 61 03 000 0057 61 03 000 0142 61 03 000 0127 61 03 000 0046 61 03 000 0048 61 03 000 0050 61 03 000 0052 61 03 000 0054 61 03 000 0056 61 03 000 0058 61 03 000 0059	
<p>Cable clamp 5 mm ... 7 mm</p> 			61 03 000 0141	
<p>Cable clamp 7 mm ... 10 mm</p> 			61 03 000 0044	
<p>Cable clamp 10 mm ... 12 mm</p> 			61 03 000 0143	

Features

- Shielding bus separate from housing potential
- Suitable for the transmission of sensitive signals (e.g. bus signals)
- The four pole Han® Quintax contact is suitable for Ethernet Cat. 5e and PROFIBUS when diagonally wiring of the data pairs

Technical characteristics

Contacts	2
Electrical data acc. to IEC 61984	10 A 50 V 0.8 kV 3
Rated current	10 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate, zinc alloy
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Material (accessories)	metal

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90


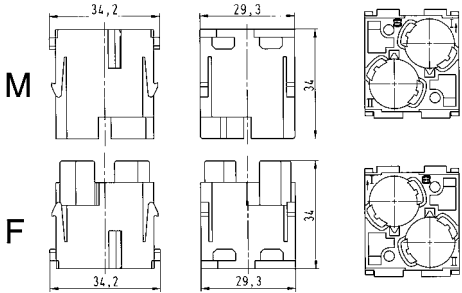

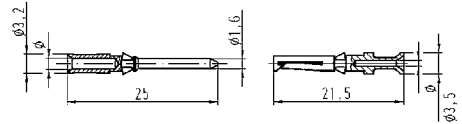

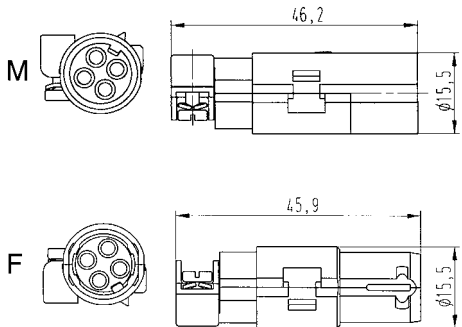

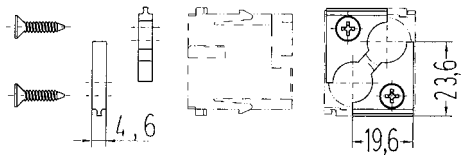
Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

2

Han-Modular

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																					
		male	female																						
Han-Modular®, Han-Quintax® module, Crimp terminal 		09 14 002 3001	09 14 002 3101	 <p>Contact arrangement (view from termination side)</p>																					
Han D®, Crimp contact, gold plated contacts, contact resistance ≤3 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5	09 15 000 6124 09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121 09 15 000 6126	09 15 000 6224 09 15 000 6223 09 15 000 6225 09 15 000 6222 09 15 000 6221 09 15 000 6226	 <table border="1" data-bbox="1005 1198 1468 1355"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
Wire gauge	∅	Stripping length																							
0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																							
0.5 mm ² AWG 20	1.1 mm	8 mm																							
0.75 mm ² AWG 18	1.3 mm	8 mm																							
1 mm ² AWG 18	1.45 mm	8 mm																							
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							
Han-Quintax® contact, 4 + shielding, for Han D® crimp contacts  <p>Please order crimp contacts separately.</p>		09 15 004 3013	09 15 004 3113																						
Han-Quintax®, Adapter 		09 14 000 9915	09 14 000 9915																						
optional																									

Technical characteristics

Contacts	2
Electrical data acc. to IEC 61984	5 A 50 V 0.8 kV 3
Rated current	5 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0

Technical characteristics

Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (accessories)	metal

Specifications and approvals

IEC 60664-1
IEC 61984



Number of contacts

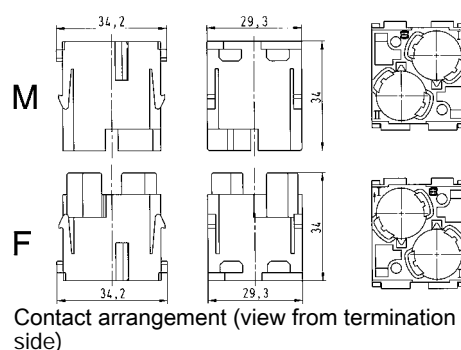
2

Han-Modular

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	

Han-Modular®, Han-Quintax® module, Crimp terminal

09 14 002 3001	09 14 002 3101
----------------	----------------



Han-Modular®, Han-Quintax® High Density contact, 8 + shielding, for Han® D-Sub contacts

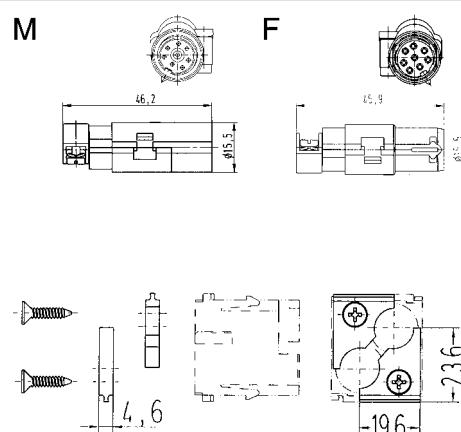
Please order contacts separately.

Han-Quintax®, Adapter

optional

Han® D-Sub crimp contact, turned contacts

09 15 008 3013	09 15 008 3113	
09 14 000 9915	09 14 000 9915	
0.09-0.25	09 67 000 7576	09 67 000 7476
0.13-0.33	09 67 000 5576	09 67 000 5476
0.25-0.52	09 67 000 8576	09 67 000 8476



Wire gauge	max. insulation diameter	Stripping length
0.09-0.25 mm ²	1.7	4 mm
0.13-0.33 mm ²	1.7	4 mm
0.25-0.52 mm ²	1.7	4 mm

Technical characteristics

Contacts	2
Electrical data acc. to IEC 61984	10 A 50 V 0.8 kV 3
Rated current	10 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate, zinc alloy
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90


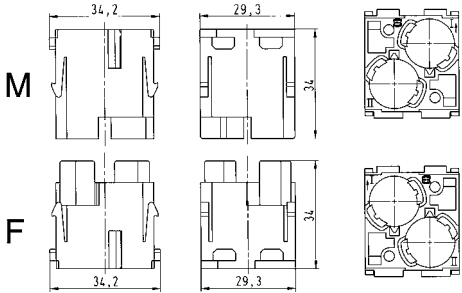

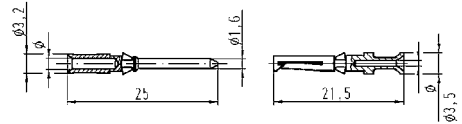

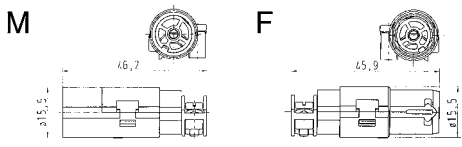
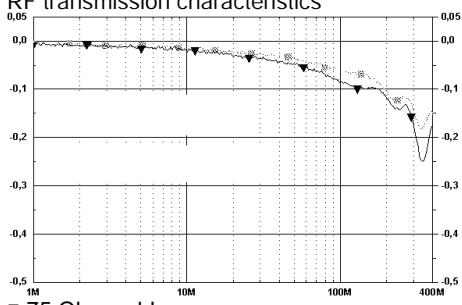
Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

2

Han-Modular

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																					
		male	female																						
Han-Modular®, Han-Quintax® module, Crimp terminal 		09 14 002 3001	09 14 002 3101	 <p>M</p> <p>F</p> <p>Contact arrangement (view from termination side)</p>																					
Han D®, Crimp contact, gold plated contacts, contact resistance ≤3 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5	09 15 000 6124 09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121 09 15 000 6126	09 15 000 6224 09 15 000 6223 09 15 000 6225 09 15 000 6222 09 15 000 6221 09 15 000 6226	 <table border="1" data-bbox="1005 1198 1468 1355"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
Wire gauge	∅	Stripping length																							
0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																							
0.5 mm ² AWG 20	1.1 mm	8 mm																							
0.75 mm ² AWG 18	1.3 mm	8 mm																							
1 mm ² AWG 18	1.45 mm	8 mm																							
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							
Coaxial contact, 1 + shielding, for Han D® crimp contacts, 75 Ohm  Please order crimp contacts separately.		09 15 001 3013	09 15 001 3113	 <p>M</p> <p>F</p> <p>RF transmission characteristics</p>  <p>■ 75 Ohm cable ▼ 75 Ohm cable with Han D® Coax</p>																					

Technical characteristics

Contacts	2
Electrical data acc. to IEC 61984	16 A 50 V 0.8 kV 3
Rated current	16 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate, zinc alloy
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90


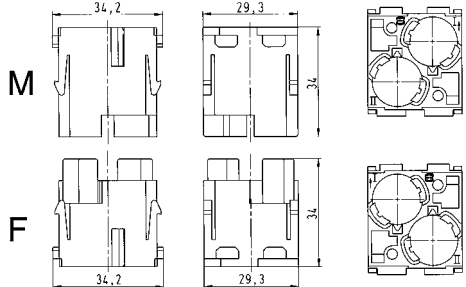
Remarks on the crimp technique


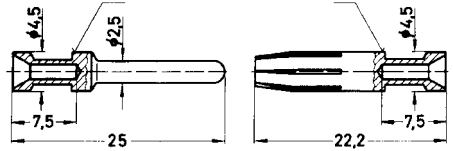
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.


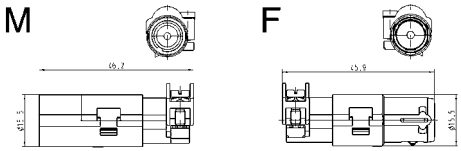
Number of contacts

2

Han-Modular

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han-Modular®, Han-Quintax® module, Crimp terminal 		09 14 002 3001	09 14 002 3101	 <p>Contact arrangement (view from termination side)</p>

Han E®, Crimp contact, gold plated contacts, contact resistance ≤1 mOhm 	0.14–0.37	09 33 000 6117	09 33 000 6217	 <table border="1"> <thead> <tr> <th>Identification</th> <th>Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>no groove</td> <td>0.14-0.37 mm² AWG 26-22</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>0.5 mm² AWG 20</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove*</td> <td>0.75 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove</td> <td>1 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>2 grooves</td> <td>1.5 mm² AWG 16</td> <td>7.5 mm</td> </tr> <tr> <td>3 grooves</td> <td>2.5 mm² AWG 14</td> <td>7.5 mm</td> </tr> <tr> <td>wide groove</td> <td>3 mm² AWG 12</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>4 mm² AWG 12</td> <td>7.5 mm</td> </tr> </tbody> </table> <p>* on the back crimp collar</p>	Identification	Wire gauge	Stripping length	no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm	no groove	0.5 mm ² AWG 20	7.5 mm	1 groove*	0.75 mm ² AWG 18	7.5 mm	1 groove	1 mm ² AWG 18	7.5 mm	2 grooves	1.5 mm ² AWG 16	7.5 mm	3 grooves	2.5 mm ² AWG 14	7.5 mm	wide groove	3 mm ² AWG 12	7.5 mm	no groove	4 mm ² AWG 12	7.5 mm
	Identification	Wire gauge	Stripping length																												
	no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm																												
	no groove	0.5 mm ² AWG 20	7.5 mm																												
	1 groove*	0.75 mm ² AWG 18	7.5 mm																												
	1 groove	1 mm ² AWG 18	7.5 mm																												
	2 grooves	1.5 mm ² AWG 16	7.5 mm																												
	3 grooves	2.5 mm ² AWG 14	7.5 mm																												
	wide groove	3 mm ² AWG 12	7.5 mm																												
	no groove	4 mm ² AWG 12	7.5 mm																												
0.5	09 33 000 6122	09 33 000 6222																													
0.75	09 33 000 6115	09 33 000 6215																													
1	09 33 000 6118	09 33 000 6218																													
1.5	09 33 000 6116	09 33 000 6216																													
2.5	09 33 000 6123	09 33 000 6223																													
4	09 33 000 6119	09 33 000 6221																													
5.5	09 33 000 6139	09 33 000 6239																													

Coaxial contact, 1 + shielding, for Han E® crimp contacts, 50 Ohm  <p>Please order crimp contacts separately.</p>	09 15 001 3023	09 15 001 3123	 <table border="1"> <thead> <tr> <th>Han E® Coax with RG 213 cable (2.5 mm²)</th> <th>200 MHz</th> <th>500 MHz</th> <th>1.0 GHz</th> <th>1.2 GHz</th> <th>1.5 GHz</th> <th>2.0 GHz</th> <th>2.5 GHz</th> </tr> </thead> <tbody> <tr> <td>Return loss [dB]</td> <td>23.8</td> <td>21.1</td> <td>>18.7</td> <td>>17.7</td> <td>>16.4</td> <td>>14.1</td> <td>>12.0</td> </tr> <tr> <td>Attenuation [dB]</td> <td>0.07</td> <td>0.11</td> <td>0.17</td> <td>0.2</td> <td><0.23</td> <td><0.53</td> <td><2.0</td> </tr> </tbody> </table>	Han E® Coax with RG 213 cable (2.5 mm ²)	200 MHz	500 MHz	1.0 GHz	1.2 GHz	1.5 GHz	2.0 GHz	2.5 GHz	Return loss [dB]	23.8	21.1	>18.7	>17.7	>16.4	>14.1	>12.0	Attenuation [dB]	0.07	0.11	0.17	0.2	<0.23	<0.53	<2.0
	Han E® Coax with RG 213 cable (2.5 mm ²)	200 MHz	500 MHz	1.0 GHz	1.2 GHz	1.5 GHz	2.0 GHz	2.5 GHz																			
Return loss [dB]	23.8	21.1	>18.7	>17.7	>16.4	>14.1	>12.0																				
Attenuation [dB]	0.07	0.11	0.17	0.2	<0.23	<0.53	<2.0																				

Features

- Suitable for FOC and coaxial contacts acc. to EN 41626 / D-Sub

Technical characteristics

Contacts	4, 12
Electrical data acc. to IEC 61984	50 V
Rated voltage	50 V
Rated current	1.5 A
Insulation resistance	$\geq 10^{10}$ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥ 500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy
Insertion loss	<2.5 dB, <1.5 dB

Specifications and approvals

IEC 60664-1
IEC 61984



Details

ATTENTION! Guide pins and bushes are prescribed (see chapter 80).

Number of contacts

4

1.5 A

Han-Modular

Identification

Impedance

Part number
male female

Drawing
Dimensions in mm

Han-Modular®,
Han® Multi module



Please order contacts separately.

Coaxial contact,
Solder / crimp contact,
acc. to DIN 41 626,
gold plated contacts,
contact resistance ≤ 3 Ohm



F.O. contact,
acc. to DIN 41 626



for 1 mm plastic fibre

F.O. contact,
acc. to DIN 41 626



for GI fibre 50/125 μm or
62.5/125 μm ceramic ferrule

F.O. contact,
acc. to DIN 41 626



for SI fibre (HCS®) 200/230 μm

09 14 004 4501

09 14 004 4512

09 14 000 6111

09 14 000 6211

09 14 000 6121

09 14 000 6221

20 10 001 4211

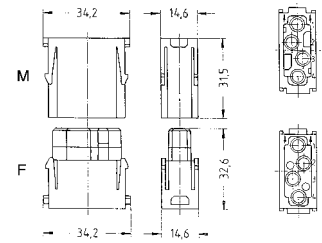
20 10 001 4221

20 10 125 4212

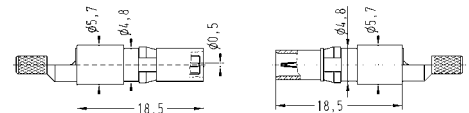
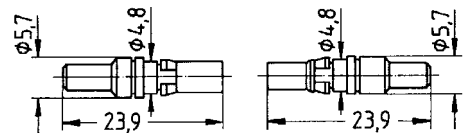
20 10 125 4222

20 10 230 4211

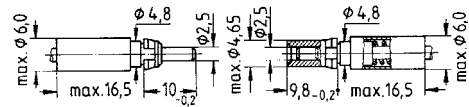
20 10 230 4221



Contact arrangement (view from termination side)




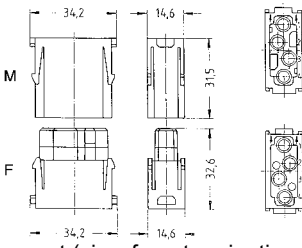
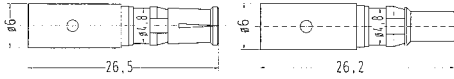



Wires	Shell	Internal wire	Dämpfung db/100 m bei		
	\varnothing mm		\varnothing mm	100MHz	200MHz
50 Ω					
RG 174 / U	2.5	0.48			
RG 188 A / U	2.6	0.54	29	40	
RG 316 / U	2.5	0.54		40	
75 Ω					
RG 179 B / U	2.55	0.3		41	
RG 187 A / U	2.7	0.3		41	



Number of contacts

4

1.5 A


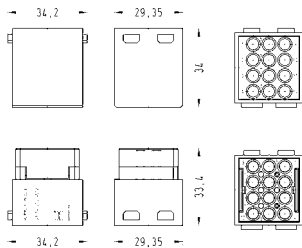

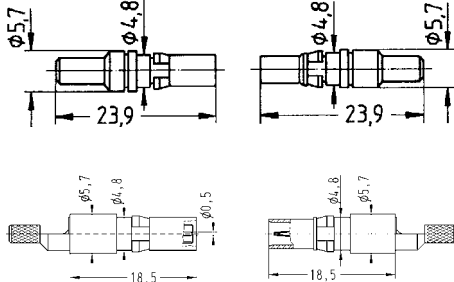



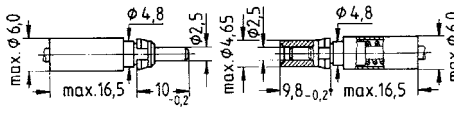



Identification	Impedance	Part number		Drawing Dimensions in mm
		male	female	
Han-Modular®, Han® Multi module  Please order contacts separately.		09 14 004 4501	09 14 004 4513	 <p>Contact arrangement (view from termination side)</p> 
Coaxial contact, Solder / solder contact, acc. to D-Sub, gold plated contacts, contact resistance ≤ 3 Ohm 	50 Ohm	09 14 000 6215	09 14 000 6115	
Solder / crimp contact, acc. to D-Sub, gold plated contacts 	50 Ohm 75 Ohm	09 69 281 5140 09 69 281 5141 09 69 281 5143 09 69 281 5230	09 69 181 5140 09 69 181 5141 09 69 181 5143 09 69 181 5230	
Crimp / crimp terminal, acc. to D-Sub, gold plated contacts 	50 Ohm 75 Ohm	09 69 282 5140 09 69 282 5230	09 69 182 5140 09 69 182 5230	

Number of contacts

12

50 V
1.5 A

Han-Modular

Identification	Impedance	Part number		Drawing Dimensions in mm																																																					
		male	female																																																						
Han-Modular®, Han® Multi module, according to DIN 41 626  Please order contacts separately.		09 14 012 4501	09 14 012 4512	 Contact arrangement (view from termination side)																																																					
Coaxial contact, Solder / crimp contact, acc. to DIN 41 626, gold plated contacts, contact resistance ≤3 Ohm 	50 Ohm 75 Ohm	09 14 000 6111 09 14 000 6121	09 14 000 6211 09 14 000 6221	 <table border="1"> <thead> <tr> <th rowspan="2">Wires</th> <th>Shell</th> <th rowspan="2">Internal wire</th> <th colspan="3">Dämpfung db/100 m bei</th> </tr> <tr> <th>∅ mm</th> <th>∅ mm</th> <th>100MHz</th> <th>200MHz</th> <th>800MHz</th> </tr> </thead> <tbody> <tr> <td>50 Ω</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>RG 174 / U</td> <td>2.5</td> <td>0.48</td> <td></td> <td></td> <td>84</td> </tr> <tr> <td>RG 188 A / U</td> <td>2.6</td> <td>0.54</td> <td>29</td> <td>40</td> <td></td> </tr> <tr> <td>RG 316 / U</td> <td>2.5</td> <td>0.54</td> <td></td> <td>40</td> <td></td> </tr> <tr> <td>75 Ω</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>RG 179 B / U</td> <td>2.55</td> <td>0.3</td> <td></td> <td>41</td> <td></td> </tr> <tr> <td>RG 187 A / U</td> <td>2.7</td> <td>0.3</td> <td></td> <td>41</td> <td></td> </tr> </tbody> </table>	Wires	Shell	Internal wire	Dämpfung db/100 m bei			∅ mm	∅ mm	100MHz	200MHz	800MHz	50 Ω						RG 174 / U	2.5	0.48			84	RG 188 A / U	2.6	0.54	29	40		RG 316 / U	2.5	0.54		40		75 Ω						RG 179 B / U	2.55	0.3		41		RG 187 A / U	2.7	0.3		41	
Wires	Shell	Internal wire	Dämpfung db/100 m bei																																																						
	∅ mm		∅ mm	100MHz	200MHz	800MHz																																																			
50 Ω																																																									
RG 174 / U	2.5	0.48			84																																																				
RG 188 A / U	2.6	0.54	29	40																																																					
RG 316 / U	2.5	0.54		40																																																					
75 Ω																																																									
RG 179 B / U	2.55	0.3		41																																																					
RG 187 A / U	2.7	0.3		41																																																					
F.O. contact, acc. to DIN 41 626  for 1 mm plastic fibre F.O. contact, acc. to DIN 41 626  for GI fibre 50/125 µm or 62.5/125 µm ceramic ferrule F.O. contact, acc. to DIN 41 626  for SI fibre (HCS®) 200/230 µm		20 10 001 4211	20 10 001 4221																																																						
F.O. contact, acc. to DIN 41 626  for GI fibre 50/125 µm or 62.5/125 µm ceramic ferrule F.O. contact, acc. to DIN 41 626  for SI fibre (HCS®) 200/230 µm		20 10 125 4212	20 10 125 4222																																																						
F.O. contact, acc. to DIN 41 626  for SI fibre (HCS®) 200/230 µm		20 10 230 4211	20 10 230 4221																																																						

Features

- For the transmission of clean and dry compressed air
- Female contacts with / without shut off
- Removal of tubes from pre-assembled pneumatic contacts is possible

Technical characteristics

Contacts	2, 3
Limiting temperatures	-40 °C ... 80 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	blue
Material (seal)	Buna-N
Material (contact)	delrin acetal
Operating pressure	8 bar / 116 psi

Specifications and approvals



Details

Shut off principle:

In the disconnected position the spring integrated in the female contact is active, thus the O-ring of the valve seals the opening of the air-way. During the mating process, when the defined depth of insertion is reached the male contact presses on the valve head and moves it backwards against the spring tension, so that the air-way opens.

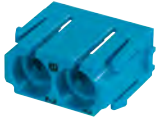
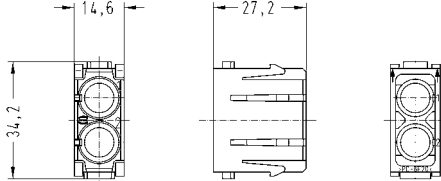
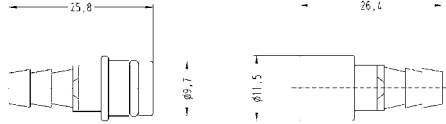
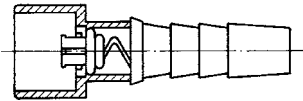
Using of guiding pins in connection with pneumatic modules is imperative.

In addition to this guiding pins guarantee a coding, if pneumatic modules are used exclusively.

Number of contacts


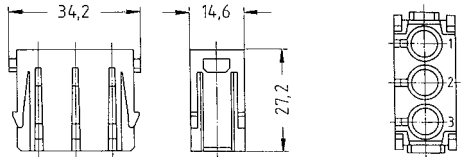
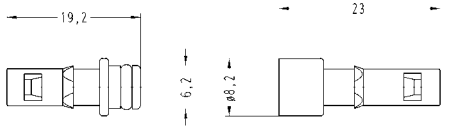
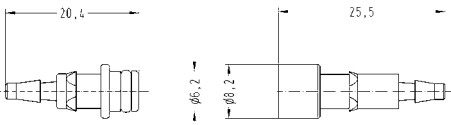
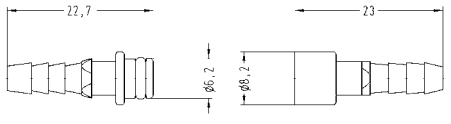
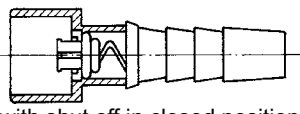
2

Han-Modular

Identification	Part number		Drawing Dimensions in mm
	male	female	
Han-Modular®, Han® Pneumatic module  <p>Please order contacts separately. Using of guiding pins is imperative!</p>	09 14 002 4501	09 14 002 4501	 <p>Contact arrangement (view from termination side)</p>
Han-Modular®, Pneumatic contact, without shut off, 6.0 mm / 1/4"	09 14 000 6174	09 14 000 6274	 <p>Male contact Female contact</p>
Han-Modular®, Pneumatic contact, with shut off, polypropylen, 6.0 mm / 1/4"		09 14 000 6279	 <p>female contact with shut off in closed position</p>

Number of contacts

3

Identification	Part number		Drawing Dimensions in mm
	male	female	
Han-Modular®, Han® Pneumatic module  Please order contacts separately. Using of guiding pins is imperative!	09 14 003 4501	09 14 003 4501	 Contact arrangement (view from termination side)
Han-Modular®, Pneumatic contact, without shut off, 1.6 mm / 1/16"	09 14 000 6151	09 14 000 6251	 Male contact Female contact
Han-Modular®, Pneumatic contact, without shut off, 3.0 mm	09 14 000 6152	09 14 000 6252	
Han-Modular®, Pneumatic contact, without shut off, 4.0 mm / 1/8"	09 14 000 6153	09 14 000 6253	
Han-Modular®, Pneumatic contact, with shut off, polypropylen, 1.6 mm / 1/16"		09 14 000 6256	 female contact with shut off in closed position
Han-Modular®, Pneumatic contact, with shut off, polypropylen, 3.0 mm		09 14 000 6257	
Han-Modular®, Pneumatic contact, with shut off, polypropylen, 4.0 mm / 1/8"		09 14 000 6258	

Han-Modular

Features

- Suitable for HARTING SC contacts
- For GI-Fibre 50 - 62,5 / 125µm

Technical characteristics

Contacts	4
Limiting temperatures	-40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Insertion loss	<0.5 dB

Specifications and approvals

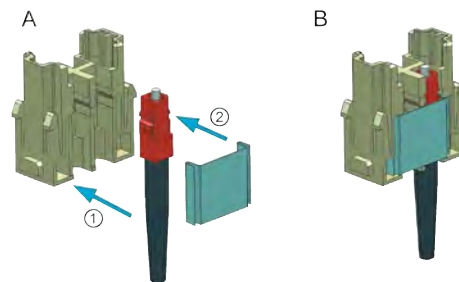


Details

Guide pins and bushes are recommended (see chapter 80).

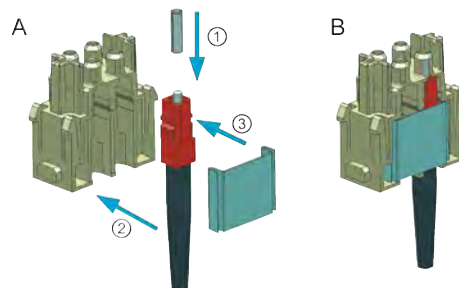
Details

Male module



- A) Assemble the SC contact
Push the SC contact from the side into the relevant insert ①
Push the fixing plate from the side over the contacts ②
B) SC contact fixed in the module


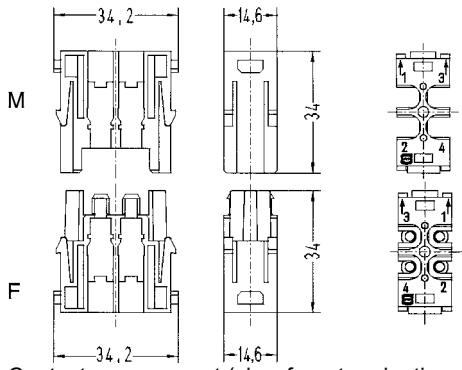


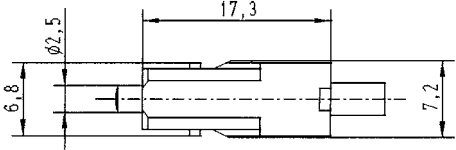
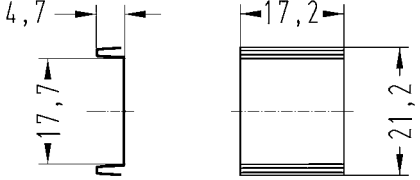
Female module



- A) Assemble the SC contact
Push the centering ferrule (included in delivery) on the SC contact ①
Push the SC contact from the side into the relevant insert ②
Push the fixing plate from the side over the contacts ③
B) SC contact fixed in the module

Number of contacts

4

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han-Modular®, Han® SC module, for F.O.</p>  <p>Please order contacts separately.</p>	09 14 004 4701	09 14 004 4711	 <p>Contact arrangement (view from termination side) The female inserts are equipped with centering ferrules. 4 ferrules are included in delivery range.</p>
<p>SC contact</p>  <p>for GI fibre 50/125 µm or 62.5/125 µm ceramic ferrule</p> <p>SC contact for SI fibre (HCS®) 200/230 µm</p> <p>SC contact, with crimp technique, for 1 mm POF</p> <p>SC contact, with quick assembly, for 1 mm POF</p> <p>Han-Modular®, Fixing plate, for SC module</p> 	20 10 125 5211	20 10 125 5211	
	20 10 230 5211	20 10 230 5211	
	20 10 001 5211	20 10 001 5211	
	20 10 001 5217	20 10 001 5217	
	09 14 000 9965	09 14 000 9965	

Features

- Suitable for HARTING LC contacts
- For GI-Fibre 50 - 62.5 / 125 µm and for single mode fibre

Technical characteristics


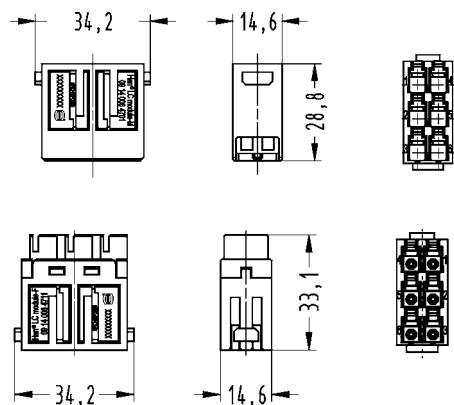

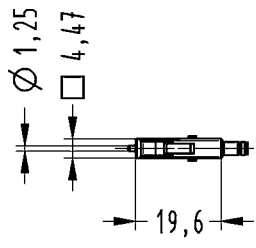

Contacts	6
Limiting temperatures	-40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Details

ATTENTION! Guide pins and bushes are prescribed (see chapter 80).

Number of contacts

6

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han-Modular®, Han® LC module, for F.O.</p>  <p>Please order contacts separately.</p>	09 14 006 4701	09 14 006 4711	
<p>LC contact, for wire gauge up to 3mm max., LWL Multi Mode</p> 	20 10 125 8211	20 10 125 8211	
<p>LC contact, for wire gauge up to 2mm, LWL Multi Mode</p> 	20 10 125 8212	20 10 125 8212	
<p>LC contact, for wire gauge up to 3mm max., LWL Single Mode</p>	20 10 125 8220	20 10 125 8220	
<p>LC contact, for wire gauge up to 2mm, LWL Single Mode</p>	20 10 125 8221	20 10 125 8221	

Han-Modular

Features

- Pre-leading grounding system according VDE
- Modules can only be assembled polarized
- Alphabetical marking of module position
- High mechanical reliability of modules in case of vibration and impact stress
- No tools necessary to remove modules
- Hinged frames can be used either in hood or housing

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Mating cycles	≥500
Mating cycles with HMC connectors	≥10000
Material (hoods/housings)	zinc die-cast

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Both different markings must be used for one connector!

Locking element 09 14 000 9960 see accessories in chapter 06

Wire gauge PE (power side) 4 ... 10 mm²

10 mm² only with ferrule crimp tool 09 99 000 0374 (see chapter 90)

Wire gauge PE (signal side) 1 ... 2.5 mm²



Identification	Part number	Drawing Dimensions in mm
Han-Modular®, Hinged frame, for 2 modules, A ... B	09 14 006 0303	<p>1) Distance max. 20.5 mm</p>
Han-Modular®, Hinged frame, for 2 modules, a ... b	09 14 006 0313	
Han-Modular®, Hinged frame HMC, for 2 modules, A ... B	09 14 206 0303	<p>1) Distance max. 20.5 mm</p>
Only with Han® Docking frame.		
Han-Modular®, Hinged frame HMC, for 2 modules, a ... b	09 14 206 0313	
Only with Han® Docking frame.		



Han-Modular

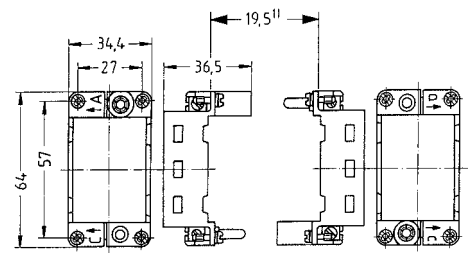
Identification

Part number

Drawing
Dimensions in mm

Han-Modular®,
Hinged frame,
for 3 modules,
A ... C

09 14 010 0303



1) Distance max. 20.5 mm

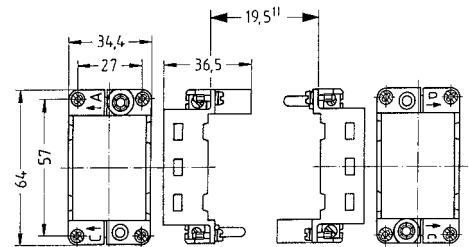
Han-Modular®,
Hinged frame,
for 3 modules,
a ... c

09 14 010 0313



Han-Modular®,
Hinged frame HMC,
for 3 modules,
A ... C

09 14 210 0303



1) Distance max. 20.5 mm

Han-Modular®,
Hinged frame HMC,
for 3 modules,
a ... c

09 14 210 0313





Identification	Part number	Drawing Dimensions in mm
Han-Modular®, Hinged frame, for 4 modules, A ... D	09 14 016 0303	<p>1) Distance max. 20.5 mm</p>
Han-Modular®, Hinged frame, for 4 modules, a ... d	09 14 016 0313	<p>1) Distance max. 20.5 mm</p>
Han-Modular®, Hinged frame HMC, for 4 modules, A ... D	09 14 216 0303	<p>1) Distance max. 20.5 mm</p>
Han-Modular®, Hinged frame HMC, for 4 modules, a ... d	09 14 216 0313	<p>1) Distance max. 20.5 mm</p>



Han-Modular

Identification	Part number	Drawing Dimensions in mm
Han-Modular®, Hinged frame, for 6 modules, A ... F	09 14 024 0303	<p>1) Distance max. 20.5 mm</p>
Han-Modular®, Hinged frame, for 6 modules, a ... f	09 14 024 0313	<p>1) Distance max. 20.5 mm</p>
Han-Modular®, Hinged frame HMC, for 6 modules, A ... F	09 14 224 0303	<p>1) Distance max. 20.5 mm</p>
Han-Modular®, Hinged frame HMC, for 6 modules, a ... f	09 14 224 0313	<p>1) Distance max. 20.5 mm</p>

Features

- Blind mating connector system for drawer systems
- Direct panel mounting without housing
- Very robust design
- Solid pre-leading guide pins and float bushes
- Can be fixed with standard M4 screws
- Suitable for Han-Modular® modules

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Mating cycles	≥500
Mating cycles with HMC connectors	≥10000
Degree of protection acc. to IEC 60529	IP20
Material (accessories)	polycarbonate
Tolerance	±2 mm
Lock-in range	±4 mm

Specifications and approvals

IEC 60664-1
IEC 61984

Details

Due the plastic material used in the docking frame without PE, the panel will need to be grounded separately.

Han-Modular

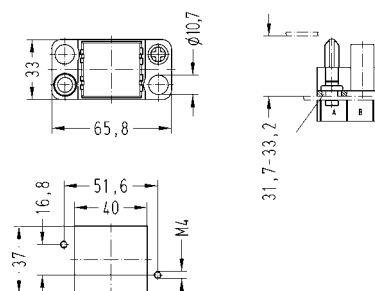
Identification

Part number

Drawing Dimensions in mm

Han-Modular®,
Docking frame,
float mount,
for 2 modules,
A ... B

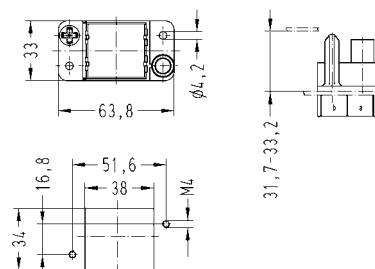
09 14 006 1701



① floating tolerance ± 2 mm
Panel cut out

Han-Modular®,
Docking frame,
fixed,
for 2 modules,
a ... b

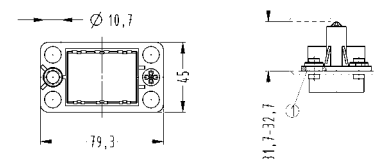
09 14 006 1711



Panel cut out

Han-Modular®,
Docking frame,
float mount,
for 3 modules,
A ... C

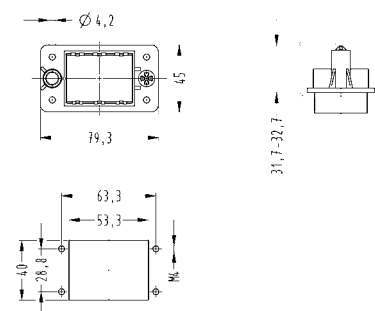
09 14 010 1701



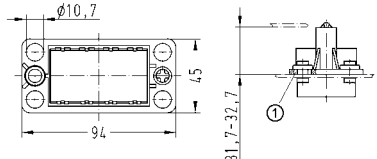
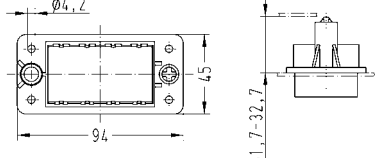
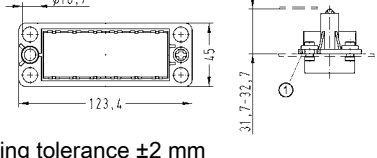
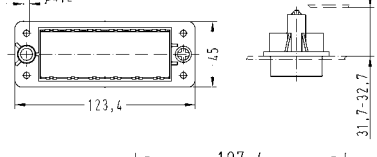
① floating tolerance ± 2 mm


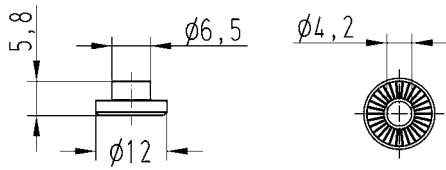
Han-Modular®,
Docking frame,
fixed,
for 3 modules,
a ... c

09 14 010 1711



Panel cut out

Identification	Part number	Drawing Dimensions in mm
Han-Modular®, Docking frame, float mount, for 4 modules, A ... D	09 14 016 1701	 <p>① floating tolerance ± 2 mm</p> <p>Panel cut out</p>
Han-Modular®, Docking frame, fixed, for 4 modules, a ... d	09 14 016 1711	 <p>Panel cut out</p>
Han-Modular®, Docking frame, float mount, for 6 modules, A ... F	09 14 024 1701	 <p>① floating tolerance ± 2 mm</p> <p>Panel cut out</p>
Han-Modular®, Docking frame, fixed, for 6 modules, a ... f	09 14 024 1711	 <p>Panel cut out</p>

Identification	Part number	Drawing Dimensions in mm
<p data-bbox="89 318 247 398">Han-Modular®, Float washer, zinc die-cast</p>  <p data-bbox="89 555 750 616">to enable the frame to be float mounted using standard M4 fixing screws</p>	<p data-bbox="774 318 949 347">09 14 000 9936</p>	

Han-Modular

Features

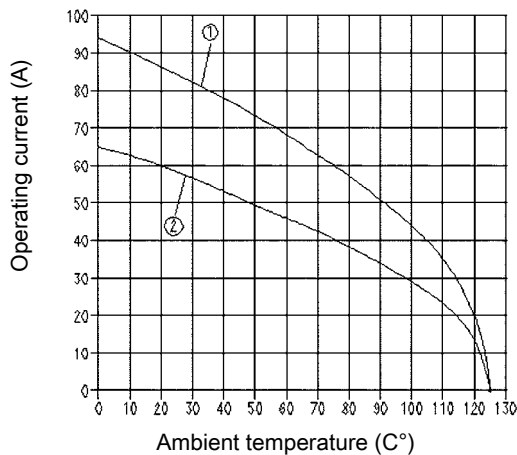
- Robust housing
- Compact design saves space
- Modular structure increases flexibility
- Simple and quick assembly
- Two-part housing

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2

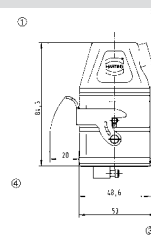


- ① Han® 40 A Axial module Wire cross section 10 mm²
- ② Han® C module Wire cross section 6 mm²

Technical characteristics


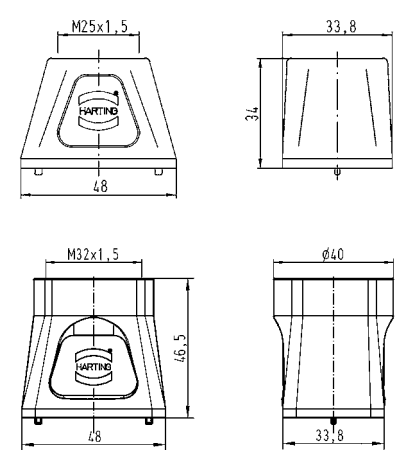

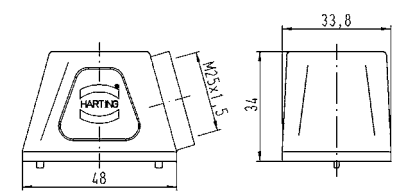

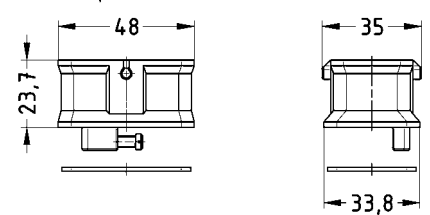

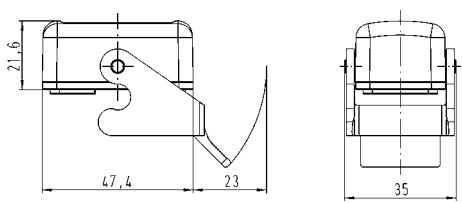
Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Mating cycles	≥500
Tightening torque	1 Nm
Degree of protection acc. to IEC 60529	IP65 in locked position
Material (hoods/housings)	zinc die-cast
Surface (hoods/housings)	nickel plated
Material (locking lever)	stainless steel
Material (seal)	NBR
Material (screwing)	stainless steel


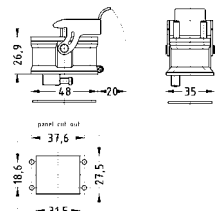

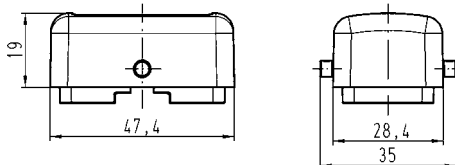

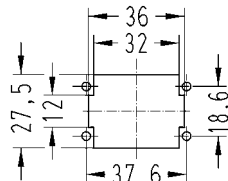
Details



- ① Hood with side entry
- ② Cable entry M25
- ③ Bulkhead mounted housing with locking lever
- ④ Carrier hood

Han-Modular

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-Modular® Compact, Hoods, top entry</p> <p>Range of delivery: 4 screws are included in the delivery range</p> 	<p>1xM25 1xM32</p>	<p>19 14 001 0401 19 14 001 0402</p>	
<p>Han-Modular® Compact, Hoods, side entry</p> <p>Range of delivery: 4 screws are included in the delivery range</p> 	<p>1xM25</p>	<p>19 14 001 0501</p>	
<p>Han-Modular® Compact, Carrier hood</p> 		<p>09 14 001 0311</p>	 <p>Wire cross section PE contact 10 mm² Stripping length 10 mm Tightening torque 1 Nm</p>
<p>Han-Modular® Compact, Protection covers for carrier hoods, plastic</p> 		<p>09 14 001 5402</p>	

Identification	Part number	Drawing Dimensions in mm
<p>Han-Modular® Compact, Bulkhead mounted housings</p> 	<p>09 14 001 0301</p>	 <p>Wire cross section PE contact 10 mm² Stripping length 10 mm Tightening torque 1 Nm</p>
<p>Han-Modular® Compact, Protection cover for bulkhead mounted housings, plastic</p> 	<p>09 14 001 5401</p>	
<p>Han-Modular® Compact, Fixing bracket</p> 	<p>09 14 000 9947</p>	<p>Panel cut out</p> 

Han-Modular

Identification	Part number	Drawing Dimensions in mm
Coding element, 1 (red)	09 14 000 9971	
Coding element, 2 (blue)	09 14 000 9972	
Coding element, 3 (black)	09 14 000 9973	
Coding element, 4 (yellow)	09 14 000 9974	

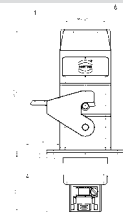
Features

- Robust housing
- Compact design saves space
- Modular structure increases flexibility
- Simple and quick assembly
- Two-part housing

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Mating cycles	≥500
Tightening torque	1 Nm
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	aluminium
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 7037 (grey)
Material (locking lever)	polycarbonate + stainless steel
Colour (locking lever)	RAL 7037 (grey)
Material (seal)	NBR

Details



- ① Hood with top entry
- ② Carrier hood
- ③ Bulkhead mounted housing with locking lever
- ④ Switch board panel
- ⑤ Panel feed through housings
- ⑥ Cable entry



Han-Modular

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-Modular® Twin, Hoods, top entry, screw locking	1xM20 1xM25 1xM32	19 14 002 0400 19 14 002 0401 19 14 002 0402	
Han-Modular® Twin, Hoods, side entry, screw locking	1xM25	19 14 002 0501	
Han-Modular® Twin, Carrier hood, Han-Easy Lock®		09 14 002 0311	<p>Wire cross section PE contact 10 mm² Stripping length 10 mm Tightening torque 1 Nm</p>
Han-Modular® Twin, shielded frame, zinc die-cast		09 14 000 9924	

double locking lever



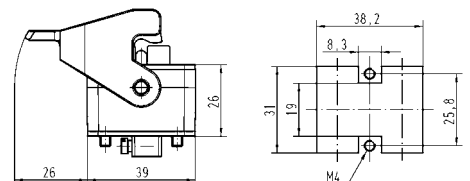
Identification

Part number

Drawing
Dimensions in mm

Han-Modular® Twin,
Bulkhead mounted housings,
Han-Easy Lock®

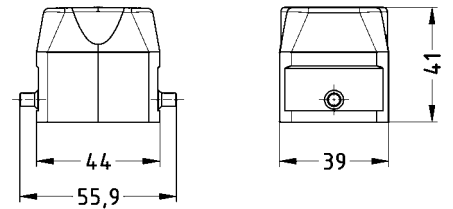
09 14 002 0301



Wire cross section PE contact 10 mm²
Stripping length 10 mm
Tightening torque 1 Nm

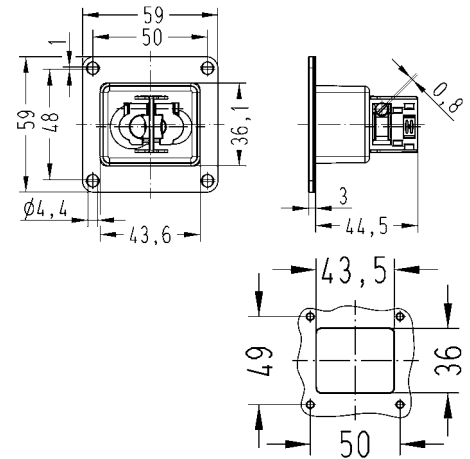
Han-Modular® Twin,
Protection cover for bulkhead mounted housings,
metal,
closed

09 14 002 5401



Han-Modular® Twin,
Panel feed through housings,
zinc die-cast,
screw locking

09 14 000 9928



Panel cut out

Han-Modular

Features

- Suitable for all Han-Modular® single modules
- The variant with PE connection uses pin 1 of the module as PE
- Slim, space saving design
- Low cost plastic hoods and housings

Technical characteristics

Limiting temperatures	-40 °C ... 85 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Mating cycles	≥500
Degree of protection acc. to IEC 60529	IP20, IP65
Material (hoods/housings)	polycarbonate
Colour (hoods/housings)	RAL 7037 (grey)
Material (seal)	NBR


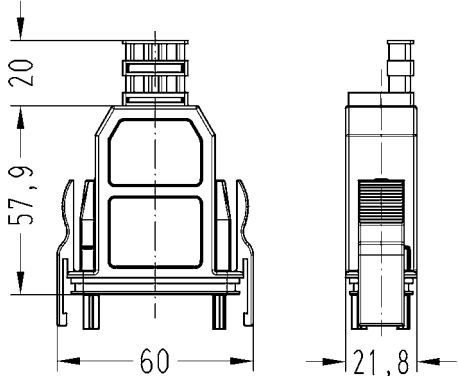

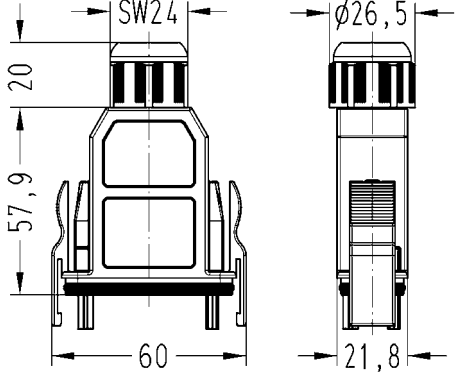

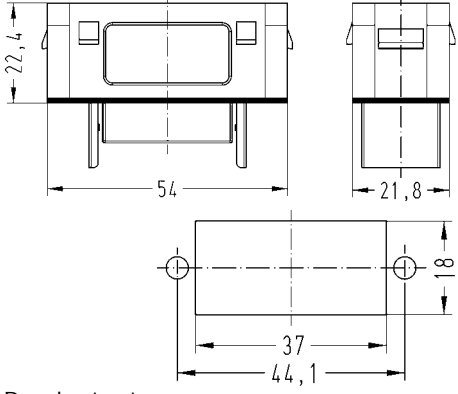
Specifications and approvals




IEC 60664-1
IEC 61984

Identification	Clamping range (mm)	Part number	Drawing Dimensions in mm
Han-Modular® ECO, Hoods, IP20, top entry, Han-Snap® locking, without PE	... 14.65	09 14 001 0422	
Han-Modular® ECO, Hoods, IP65, top entry, Han-Snap® locking, without PE	6 ... 13	09 14 001 0420	
Han-Modular® ECO, Bulkhead mounted housings, top entry, Han-Snap® locking, without PE		09 14 001 0320	<p>Panel cut out</p>


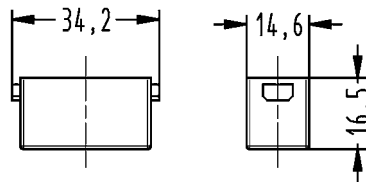

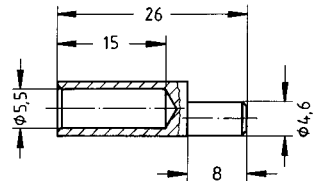

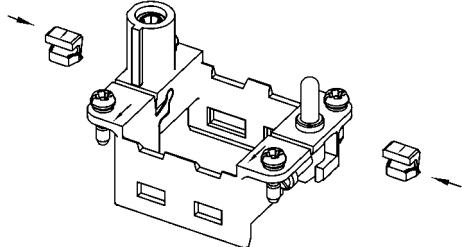

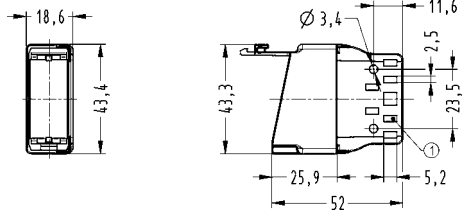
Identification	Clamping range (mm)	Part number	Drawing Dimensions in mm
Han-Modular® ECO, Cable to cable housings, IP20, top entry, Han-Snap® locking, without PE	... 14.65	09 14 001 0722	
Han-Modular® ECO, Cable to cable housings, IP65, top entry, Han-Snap® locking, without PE	6 ... 13	09 14 001 0720	
Han-Modular®, Coding element Range of delivery: 8 pieces per frame		09 14 000 9929	


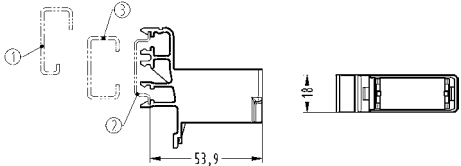

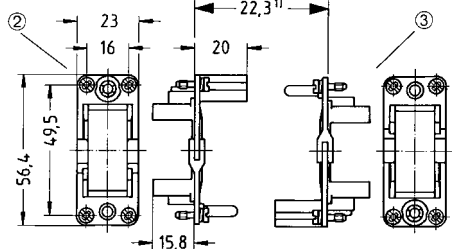
Han-Modular

Identification	Clamping range (mm)	Part number	Drawing Dimensions in mm
<p>Han-Modular® ECO, Hoods, IP20, top entry, Han-Snap® locking, with PE marking (pin 1 = PE)</p> 	<p>... 14.65</p>	<p>09 14 001 0423</p>	
<p>Han-Modular® ECO, Hoods, IP65, top entry, Han-Snap® locking, with PE marking (pin 1 = PE)</p> 	<p>6 ... 13</p>	<p>09 14 001 0421</p>	
<p>Han-Modular® ECO, Bulkhead mounted housings, top entry, Han-Snap® locking, with PE marking (pin 1 = PE)</p> 		<p>09 14 001 0321</p>	 <p>Panel cut out</p>

Identification	Clamping range (mm)	Part number	Drawing Dimensions in mm
<p>Han-Modular® ECO, Cable to cable housings, IP20, top entry, Han-Snap® locking, with PE marking (pin 1 = PE)</p> 	<p>... 14.65</p>	<p>09 14 001 0723</p>	
<p>Han-Modular® ECO, Cable to cable housings, IP65, top entry, Han-Snap® locking, with PE marking (pin 1 = PE)</p> 	<p>6 ... 13</p>	<p>09 14 001 0721</p>	
<p>Han-Modular®, Coding element Range of delivery: 8 pieces per frame</p> 		<p>09 14 000 9929</p>	

Han-Modular

Identification	Wire cross section (mm ²)	Part number	Drawing Dimensions in mm
Han-Modular®, Han® Dummy module 		09 14 000 9950	
Han-Modular®, Cable shoe, for PE extension for hoods/housings high construction only 	16	09 14 000 9912	 <p>Please use pressing tools for non-insulated cable shoes</p>
Han-Modular®, fixing, for Han-Modular® hinged frames Range of delivery: 20 pieces per frame 		09 14 000 9960	 <p>Ideal to pre-assemble the hinged frames</p>
Han-Modular®, Module locking, with strain relief Range of delivery: 1 Module clamp 		09 14 000 0312	 <p>① For cable ties with max. 5 mm width</p>

Identification	Wire cross section (mm ²)	Part number	Drawing Dimensions in mm
<p>Han-Modular®, Module locking, for rail</p> <p>Range of delivery: 1 Module clamp</p> 		09 14 000 0313	 <p>① G-rail IEC 60715-G32 ② rail IEC 60715-35 x 7.5 with 1 mm thickness or -35 x 15 with 1.5 mm thickness ③ C-rail IEC 60715-C30</p>
<p>Han-Modular®, Frame, for 1 module, in housing Han® 10 A</p> 		09 14 000 0304	 <p>1 distance max. 23.5 mm 2 hoods 3 housings</p>

Han-Modular

Contents

Page

Han® HsB.....

07.2

Features

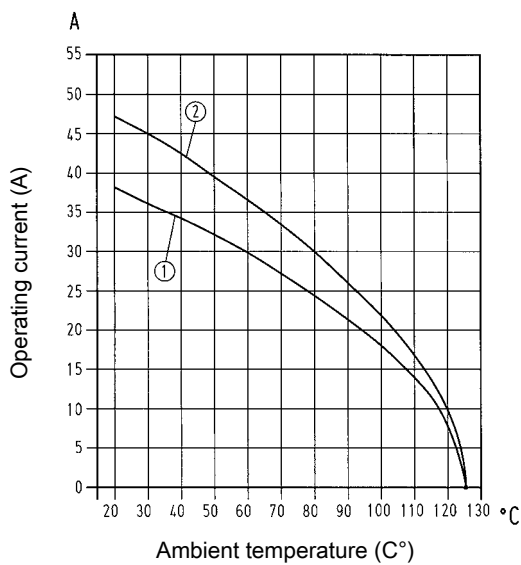
- Screw termination with wire protection
- Suitable for power supply applications
- Termination with standard screw driver

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 4 mm²
- ② Wire cross section 6 mm²

Technical characteristics

Contacts	6, 12
Electrical data acc. to IEC 61984	35 A 400/690 V 6 kV 3
Rated current	35 A
Rated voltage conductor - ground	400 V
Rated voltage conductor - conductor	690 V
Rated impulse voltage	6 kV
Pollution degree	3
alternative electrical data	35 A 500 V 6 kV 3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals


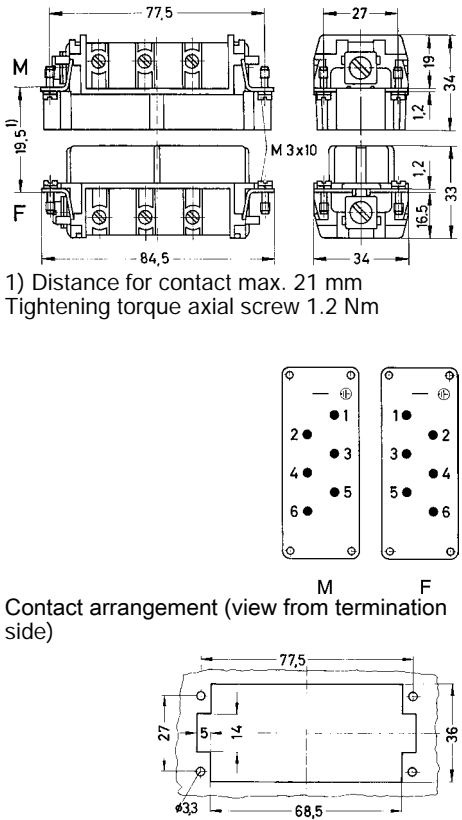
IEC 60664-1
IEC 61984



Number of contacts

6+

400/690 V
35 A

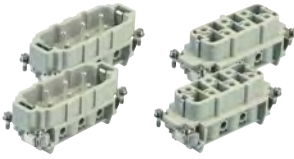
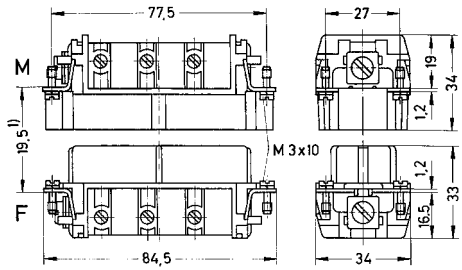

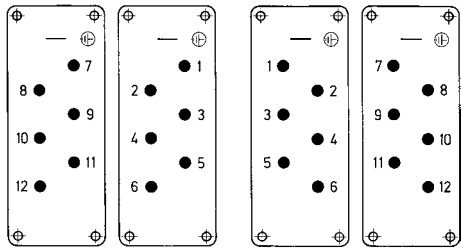
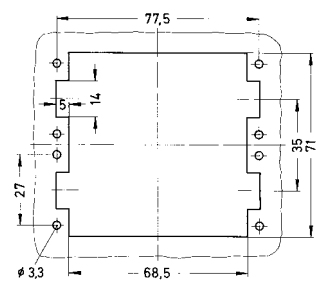
Identification	Wire cross section (mm²)	Part number male female		Drawing Dimensions in mm
<p>Han® HsB, Screw terminal, silver plated contacts, contact resistance ≤1 mOhm</p> 	<p>1.5 – 6</p>	<p>09 31 006 2601</p>	<p>09 31 006 2701</p>	 <p>1) Distance for contact max. 21 mm Tightening torque axial screw 1.2 Nm</p> <p>M F</p> <p>Panel cut out for inserts for use without hoods/housings</p>

Han
HsB

Number of contacts

12+

400/690 V
35 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
<p>Han® HsB, Screw terminal, 1 - 6, silver plated contacts, contact resistance ≤1 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	1.5-6	09 31 006 2601	09 31 006 2701	 <p>1) Distance for contact max. 21 mm Tightening torque axial screw 1.2 Nm</p>
<p>Han® HsB, Screw terminal, 7 - 12, silver plated contacts, contact resistance ≤1 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	1.5-6	09 31 006 2611	09 31 006 2711	 <p>M F Contact arrangement (view from termination side)</p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Han
HsB

Contents	Page
Han D® AV	08.4
Han D® AV Distributor	08.9
Han E® AV	08.11
Han® ES AV	08.20
Accessories	08.25

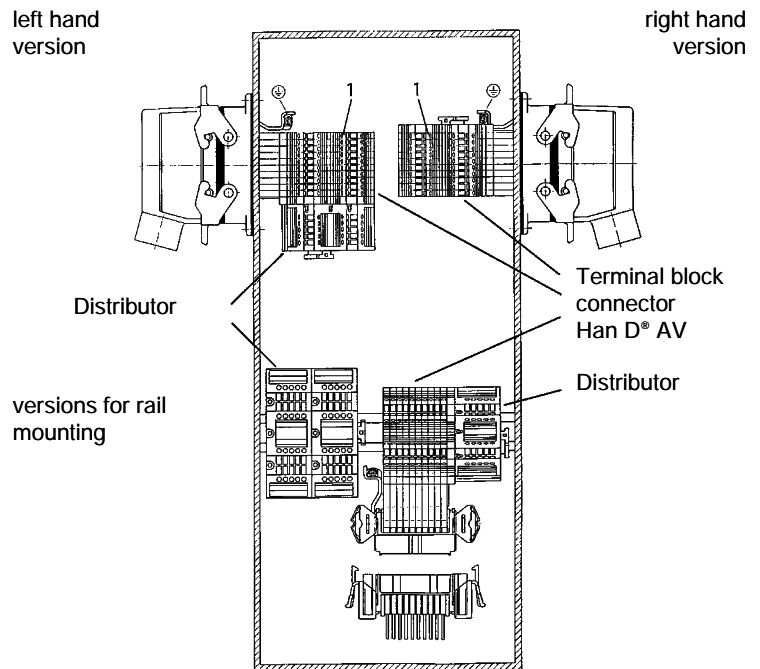
Possibilities in switch cabinet

Left or right hand mounting in the switch cabinet, therefore allows use of the same pre-prepared interface cable

Internal use on standard rails in the switch cabinet in conjunction with Han-Snap®

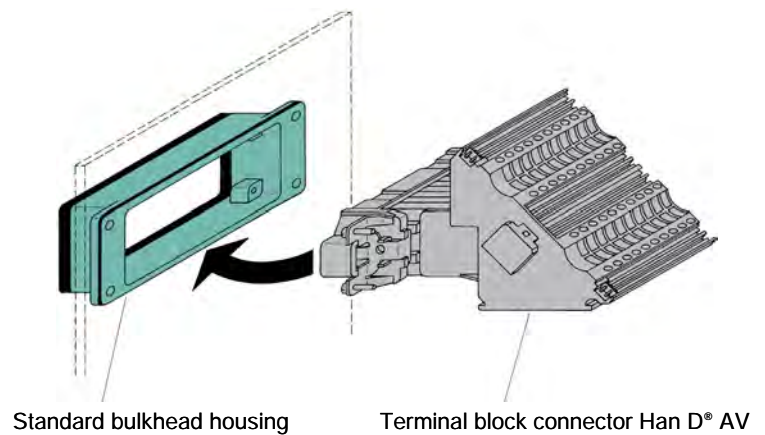
Distributor lockable on standard rails or mountable at terminal block connector Han D® AV

The terminal block connectors can be supplied for left hand or right hand applications. Hence the ground and connecting terminal for contact no. 1 will always be accessible from above in both types of installation.



Assembly of terminal block connectors

Terminal block connectors can be mounted from the inside of the switch cabinet into standard bulkhead housings. Therefore pre-assembly is possible.



Identification

The individual terminals have the same identification as on the mating face. In addition each circuit may be separately labelled with identification strips fitted in the adjacent slots.

Counterparts

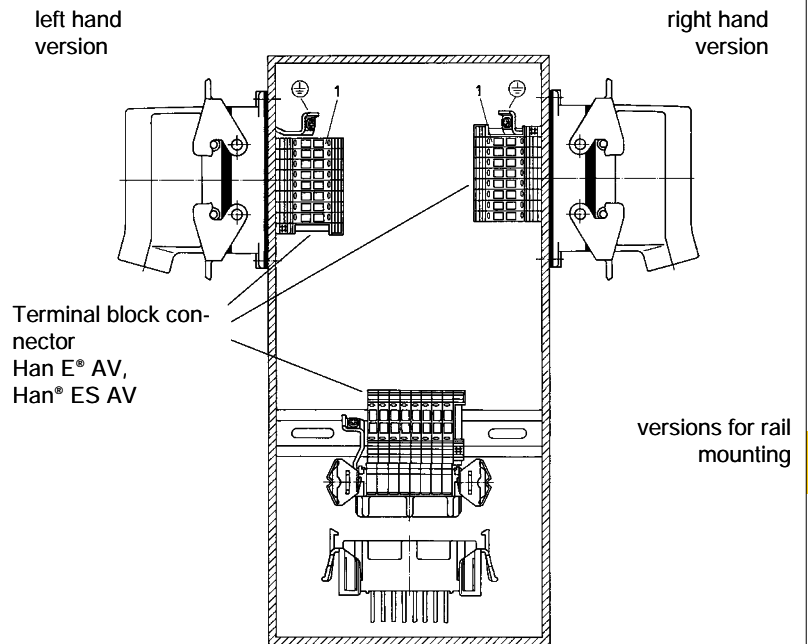
For suitable mating inserts of serie Han D® with crimp terminal please refer to the chapter 02.

Possibilities in switch cabinet

Left or right hand mounting in the switch cabinet, therefore allows use of the same pre-prepared interface cable

Internal use on standard rails in the switch cabinet in conjunction with Han-Snap[®]

The terminal block connectors can be supplied for left hand or right hand applications. Hence the ground and connecting terminal for contact no. 1 will always be accessible from above in both types of installation.

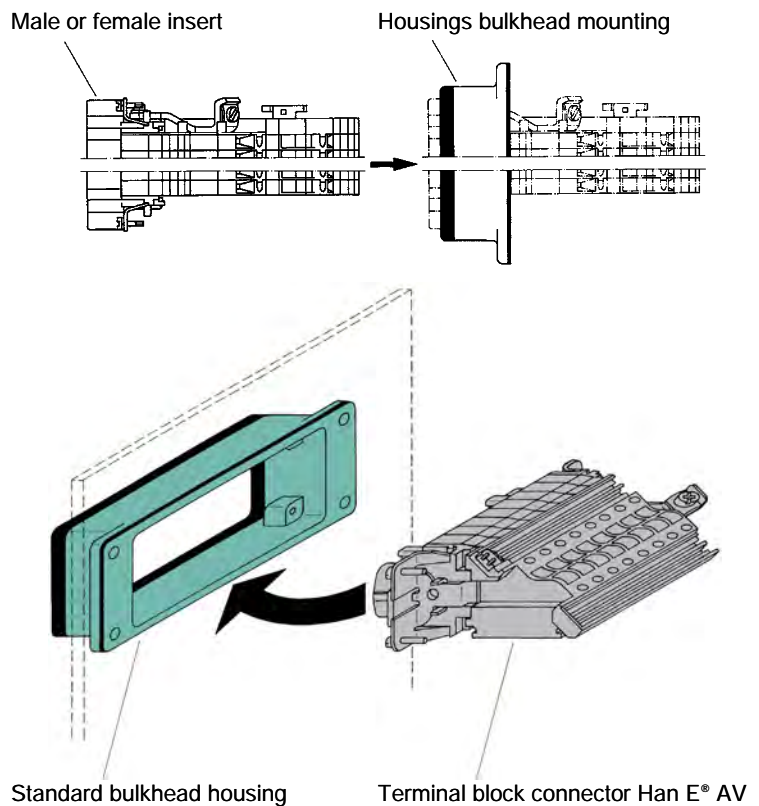


Han AV

Assembly of terminal block connectors

The terminal block connector is fixed in the standard bulkhead housing in the normal way.

Han E[®] AV and Han[®] ES AV with 16 and 24 pins can be mounted from the inside of the switch cabinet into standard bulkhead housings. Therefore pre-assembly is possible.



Identification

The individual terminals have the same identification as on the mating face. In addition each circuit may be separately labelled with identification strips fitted in the adjacent slots.

Counterparts

For suitable mating inserts of series Han E[®] and Han[®] ES with screw, cage-clamp or crimp terminals please refer to the chapter 03.

Features

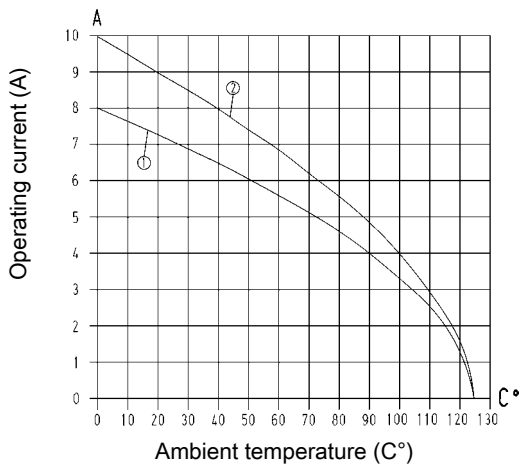
- For left or right hand applications available
- PE and connecting terminal for contact no.1 are at the top in both types of installation
- Mountable in standard bulkhead housing and on standard rails by using of fixing elements
- Screw termination with wire protection

Derating

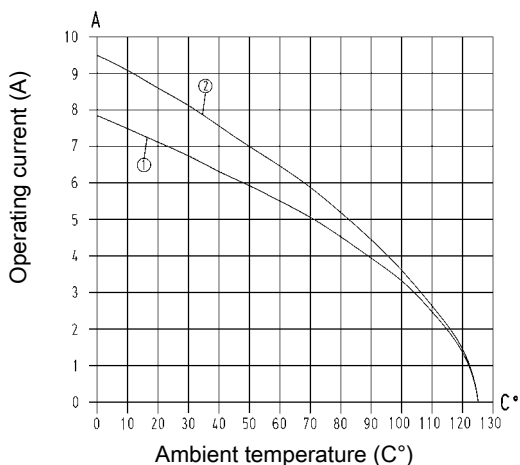
Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han[®] 40 D AV Wire cross section 0.75 mm²
- ② Han[®] 40 D AV Wire cross section 1.5 mm²



- ① Han[®] 64 D AV Wire cross section 0.75 mm²
- ② Han[®] 64 D AV Wire cross section 1.5 mm²

Technical characteristics

Contacts	40, 64
Electrical data acc. to IEC 61984	10 A 250 V 4 kV 3
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Tightening torque	0.5 Nm
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Hoods/Housings see chapter 31

Identification strips

Multi contour (MK) the following identification strips may be used

- ♦ HARTING – 09 21 000 9971
- ♦ Murrplastik – KPX 5/10-5
- ♦ Weidmüller – DEK 5
- ♦ Phoenix – 4 K – DST 5
- ♦ Phoenix – DS 5
- ♦ Phoenix – ZB 5
- ♦ WAGO – WSB 5

Single contour (SK) the following identification strips may be used

- ♦ Murrplastik – KWI 5/10
- ♦ Murrplastik – KWI 5/10-5
- ♦ Murrplastik – KWI 8.6-5
- ♦ Wieland – 9705 A 5/10
- ♦ WAGO – Mini - WSB


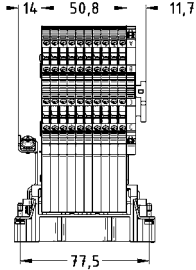
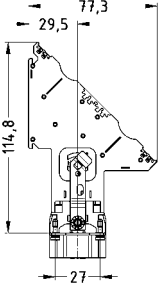

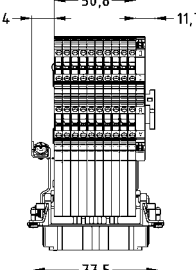
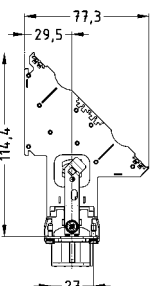
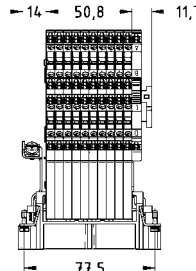
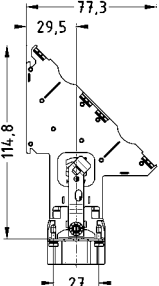
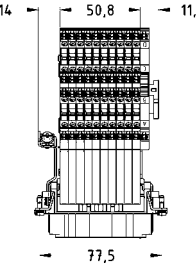
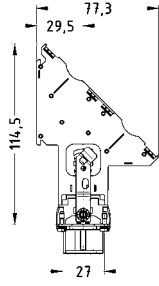
Identification

The individual terminals have the same identification as on the mating face. In addition each circuit may be separately labelled with identification strips fitted in the adjacent slots.


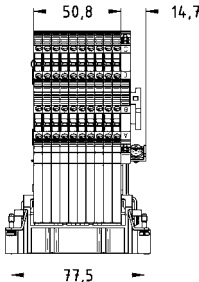
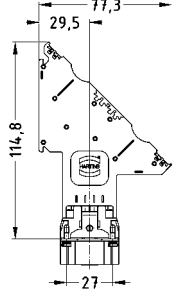
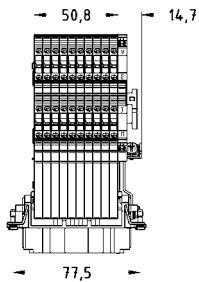
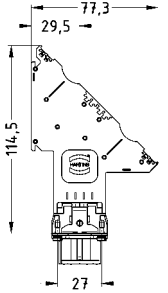

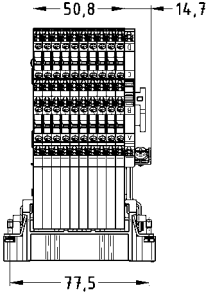
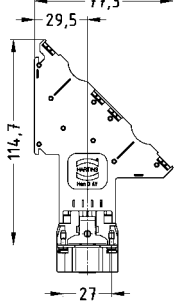
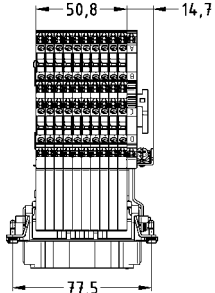
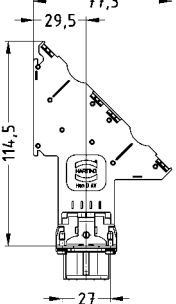
Number of contacts

40+

250 V
10 A

Identification	Wire cross section (mm²)	Part number		Drawing	
		male	female	Dimensions in mm	
Terminal Block Connectors, Screw terminal, Left hand version, Multi contour (MK), silver plated contacts, contact resistance ≤4 mOhm 	0.2–2.5	09 21 040 4601	09 21 040 4701		
Terminal Block Connectors, Screw terminal, Left hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.2–2.5	09 21 040 4602	09 21 040 4702		
					
					

Han AV


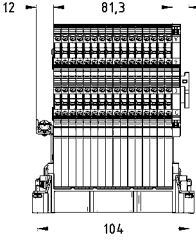
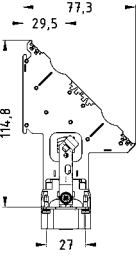

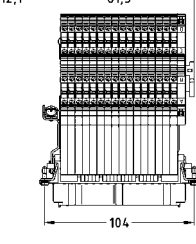
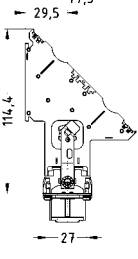
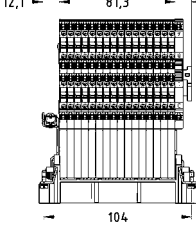
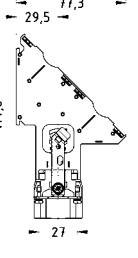
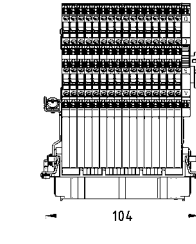
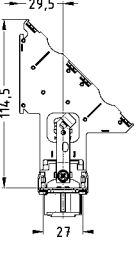
Identification	Wire cross section (mm ²)	Part number		Drawing	
		male	female	Dimensions in mm	
Terminal Block Connectors, Screw terminal, Right hand version, Multi contour (MK), silver plated contacts, contact resistance ≤4 mOhm 	0.2–2.5	09 21 040 4611	09 21 040 4711		
					
Terminal Block Connectors, Screw terminal, Right hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.2–2.5	09 21 040 4612	09 21 040 4712		
					


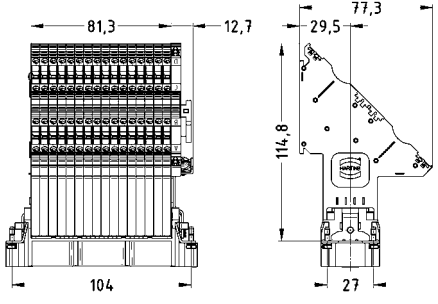

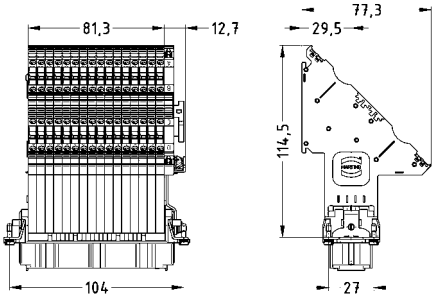
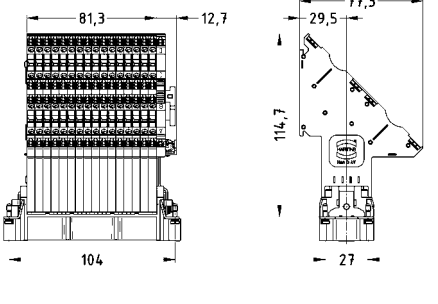
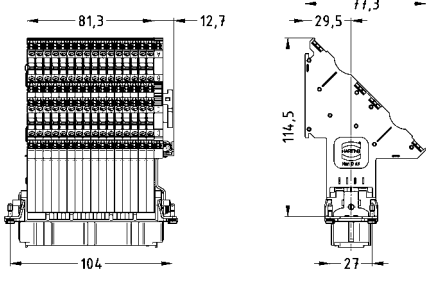
Han AV

Number of contacts

64+

250 V
10 A

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm	
		male	female		
Terminal Block Connectors, Screw terminal, Left hand version, Multi contour (MK), silver plated contacts, contact resistance ≤4 mOhm 	0.2–2.5	09 21 064 4601	09 21 064 4701		
Terminal Block Connectors, Screw terminal, Left hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.2–2.5	09 21 064 4602	09 21 064 4702		
					
					

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Terminal Block Connectors, Screw terminal, Right hand version, Multi contour (MK), silver plated contacts, contact resistance ≤4 mOhm 	0.2-2.5	09 21 064 4611	09 21 064 4711	
Terminal Block Connectors, Screw terminal, Right hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.2-2.5	09 21 064 4612	09 21 064 4712	
				
				

Han AV

Features

- Easy mounting direct adjacent to terminal block connector Han D[®] AV
- By using of fixing elements mountable on standard rails
- Screw termination with wire protection

Technical characteristics

Electrical data acc. to IEC 61984	16 A 400/690 V 6 kV 3
Rated current	16 A
Rated voltage conductor - ground	400 V
Rated voltage conductor - conductor	690 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Tightening torque	0.5 Nm
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Identification strips

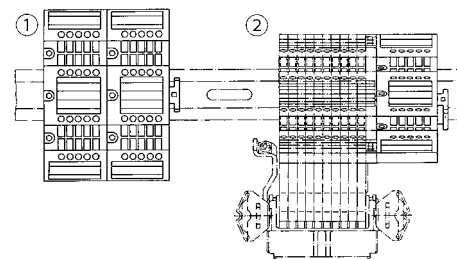
the following identification strips may be used

- ♦ HARTING – 09 21 000 9971
- ♦ Murrplastik – KPX 5/10-5
- ♦ Phoenix – 4 K – DST 5
- ♦ Phoenix – ZB 5
- ♦ Phoenix – DS 5

Identification


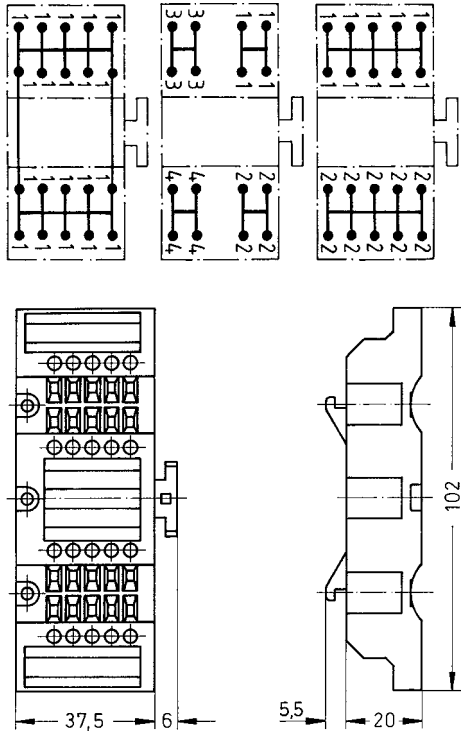
The individual terminals have the same identification as on the mating face. In addition each circuit may be separately labelled with identification strips fitted in the adjacent slots.

Mounting example



- ① Distributor on standard rail
- ② Distributor with terminal block connector Han D[®] AV

400/690 V
16 A

Identification	Terminals	Wire cross section (mm ²)	Part number	Drawing Dimensions in mm
<p>Distributor, Screw terminal, tin plated contacts</p>  <p>optionally mountable to terminal block connectors</p>	<p>20 4x4 2x10</p>	<p>0.2-2.5 0.2-2.5 0.2-2.5</p>	<p>09 42 020 0111 09 42 020 0131 09 42 020 0121</p>	<p>Drawing Dimensions in mm</p> 

Han AV

Features

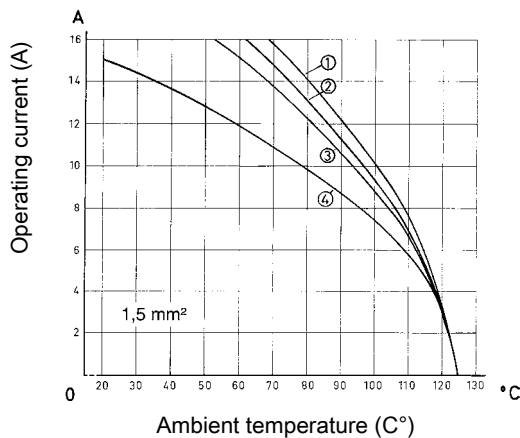
- For left or right hand applications available
- PE and connecting terminal for contact no.1 are at the top in both types of installation
- Mountable in standard bulkhead housing and on standard rails by using of fixing elements
- Screw termination with wire protection

Derating

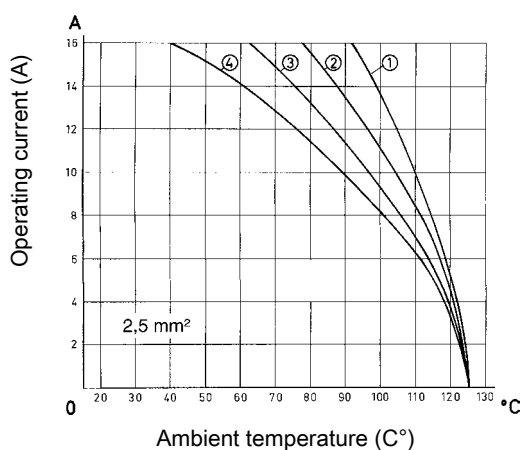
Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han[®] 6 E AV
- ② Han[®] 10 E AV
- ③ Han[®] 16 E AV
- ④ Han[®] 24 E AV



- ① Han[®] 6 E AV
- ② Han[®] 10 E AV
- ③ Han[®] 16 E AV
- ④ Han[®] 24 E AV

Technical characteristics

Contacts	6, 10, 16, 24
Electrical data acc. to IEC 61984	16 A 500 V 6 kV 3
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Tightening torque	0.5 Nm
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 61984
IEC 60664-1



Details

Identification strips Han E[®] AV

Multi contour (MK) the following identification strips may be used

- ♦ HARTING 6 x 10 – 09 33 000 9971
- ♦ Murrplastik – KPX 6 / 10
- ♦ Weidmüller – DEK 6.5
- ♦ Phoenix – 4 K – DST 6

Single contour (SK) the following identification strips may be used

- ♦ Murrplastik – KWI 6/10
- ♦ Wieland – 9705 A/6.7


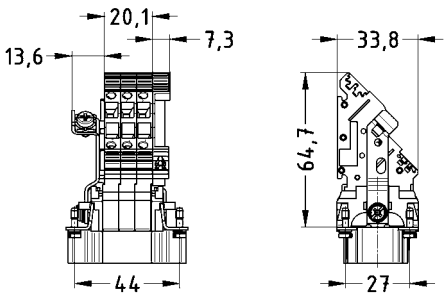

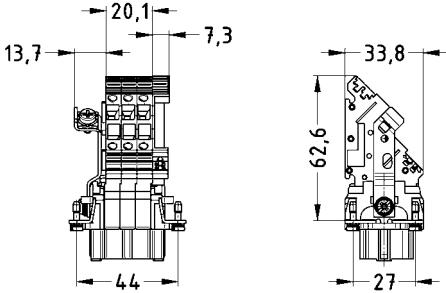

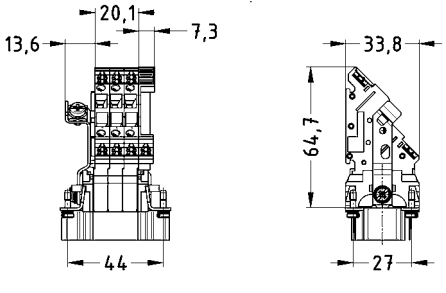

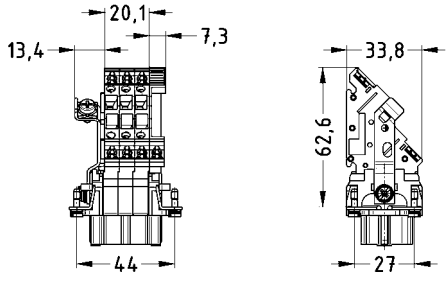
Identification

The individual terminals have the same identification as on the mating face. In addition each circuit may be separately labelled with identification strips fitted in the adjacent slots.


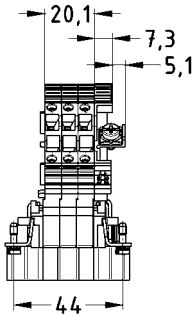
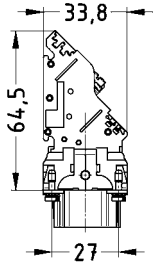

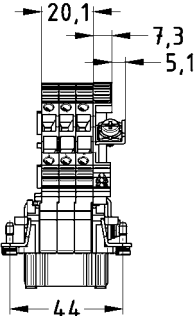
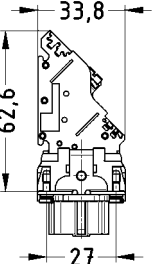
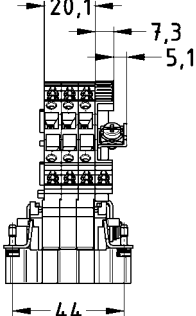
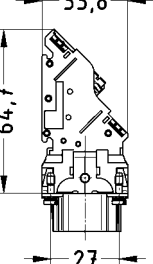
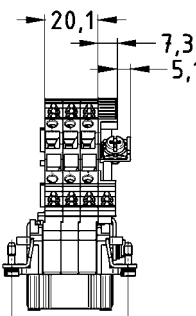
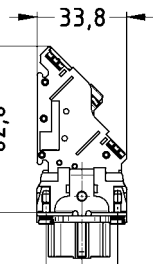
Number of contacts

6+

500 V
16 A

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm
		male	female	
Terminal Block Connectors, Screw terminal, Left hand version, Multi contour (MK), silver plated contacts, contact resistance ≤4 mOhm 	0.2-2.5	09 33 006 4625	09 33 006 4725	
Terminal Block Connectors, Screw terminal, Left hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.2-2.5	09 33 006 4626	09 33 006 4726	
Terminal Block Connectors, Screw terminal, Left hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.2-2.5	09 33 006 4626	09 33 006 4726	
Terminal Block Connectors, Screw terminal, Left hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.2-2.5	09 33 006 4626	09 33 006 4726	

Han AV

Identification	Wire cross section (mm ²)	Part number		Drawing	
		male	female	Dimensions in mm	
Terminal Block Connectors, Screw terminal, Right hand version, Multi contour (MK), silver plated contacts, contact resistance ≤4 mOhm 	0.2 – 2.5	09 33 006 4635	09 33 006 4735		
Terminal Block Connectors, Screw terminal, Right hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.2 – 2.5	09 33 006 4636	09 33 006 4736		
					
					


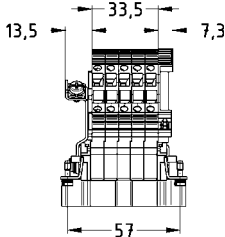
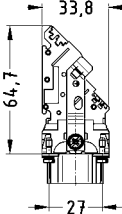
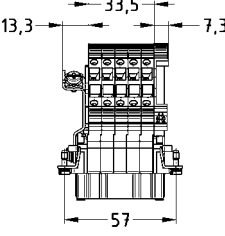
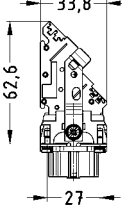

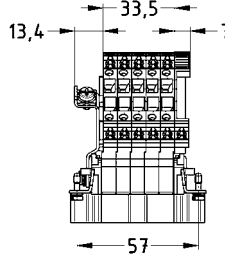
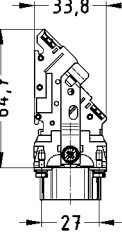
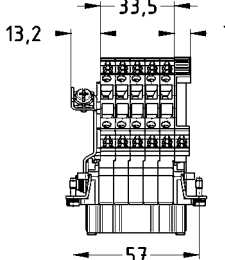
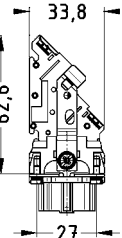
Han AV


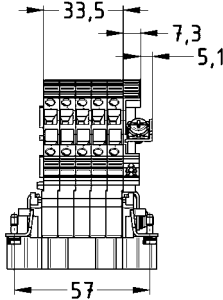
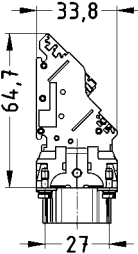
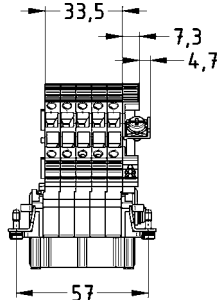
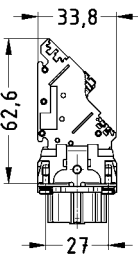

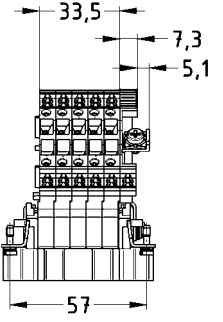
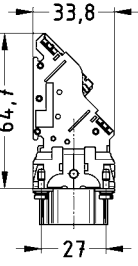
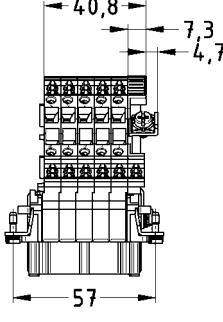
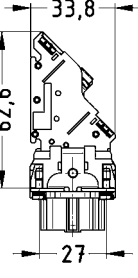
Number of contacts

10+

500 V
16 A

Han
AV

Identification	Wire cross section (mm ²)	Part number		Drawing	
		male	female	Dimensions in mm	
Terminal Block Connectors, Screw terminal, Left hand version, Multi contour (MK), silver plated contacts, contact resistance ≤4 mOhm 	0.2-2.5	09 33 010 4625	09 33 010 4725		
					
Terminal Block Connectors, Screw terminal, Left hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.2-2.5	09 33 010 4626	09 33 010 4726		
					

Identification	Wire cross section (mm ²)	Part number		Drawing	
		male	female	Dimensions in mm	
Terminal Block Connectors, Screw terminal, Right hand version, Multi contour (MK), silver plated contacts, contact resistance ≤4 mOhm 	0.2 – 2.5	09 33 010 4635	09 33 010 4735		
					
Terminal Block Connectors, Screw terminal, Right hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.2 – 2.5	09 33 010 4636	09 33 010 4736		
					


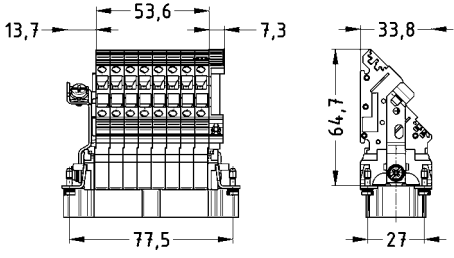

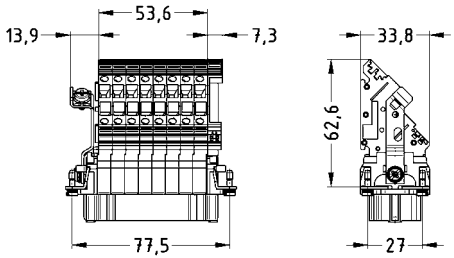

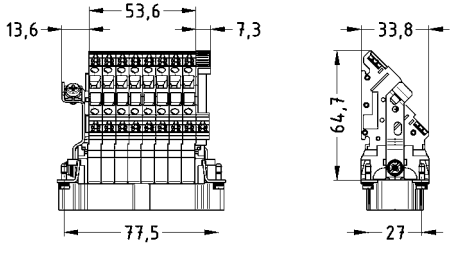

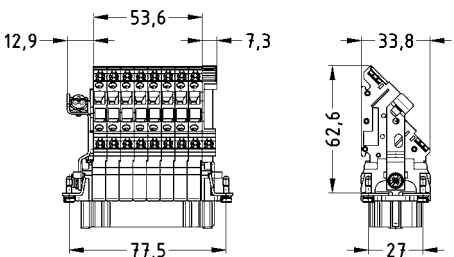
Han AV


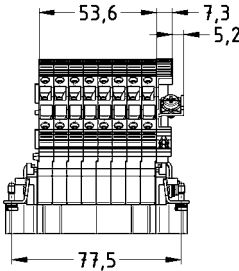
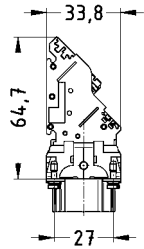
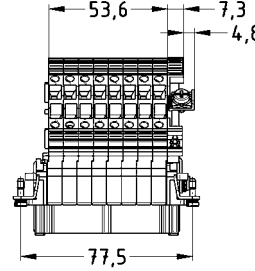
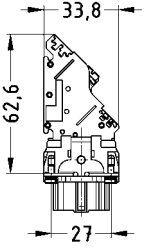

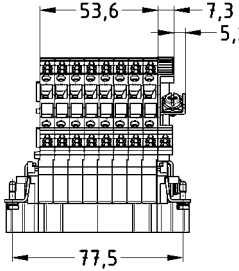
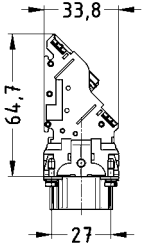
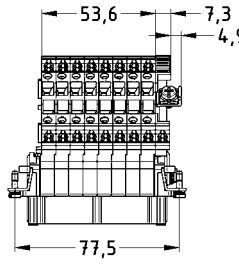
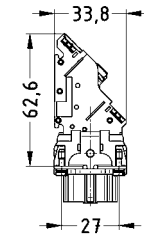
Number of contacts

16+

500 V
16 A

Han
AV

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Terminal Block Connectors, Screw terminal, Left hand version, Multi contour (MK), silver plated contacts, contact resistance ≤4 mOhm 	0.2–2.5	09 33 016 4625	09 33 016 4725	
Terminal Block Connectors, Screw terminal, Left hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.2–2.5	09 33 016 4626	09 33 016 4726	
Terminal Block Connectors, Screw terminal, Left hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.2–2.5	09 33 016 4626	09 33 016 4726	
Terminal Block Connectors, Screw terminal, Left hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.2–2.5	09 33 016 4626	09 33 016 4726	

Identification	Wire cross section (mm ²)	Part number		Drawing	
		male	female	Dimensions in mm	
Terminal Block Connectors, Screw terminal, Right hand version, Multi contour (MK), silver plated contacts, contact resistance ≤4 mOhm 	0.2 – 2.5	09 33 016 4635	09 33 016 4735		
					
Terminal Block Connectors, Screw terminal, Right hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.2 – 2.5	09 33 016 4636	09 33 016 4736		
					


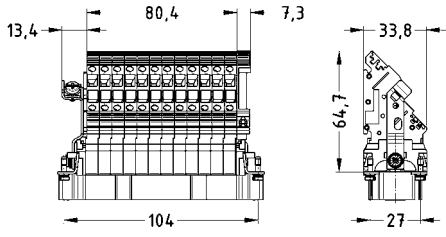

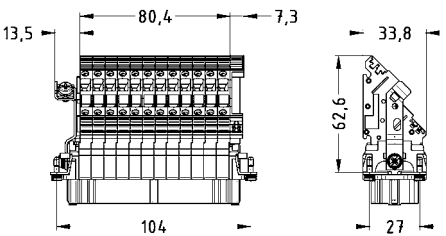
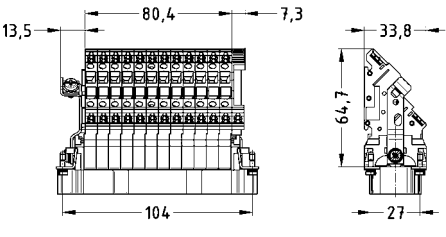
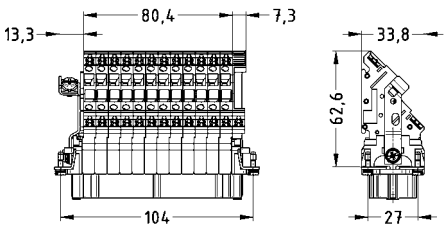
Han AV


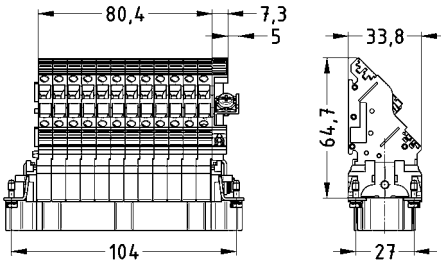

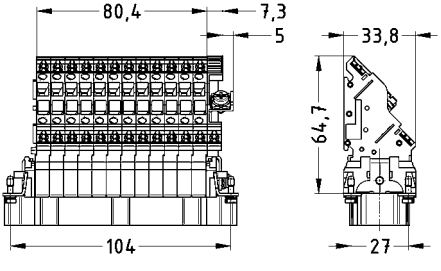
Number of contacts

24+

500 V
16 A

Han
AV

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm
		male	female	
Terminal Block Connectors, Screw terminal, Left hand version, Multi contour (MK), silver plated contacts, contact resistance ≤4 mOhm 	0.2-2.5	09 33 024 4625	09 33 024 4725	
Terminal Block Connectors, Screw terminal, Left hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.2-2.5	09 33 024 4626	09 33 024 4726	
				
				

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Terminal Block Connectors, Screw terminal, Right hand version, Multi contour (MK), silver plated contacts, contact resistance ≤4 mOhm 	0.2 – 2.5	09 33 024 4635	09 33 024 4735	
Terminal Block Connectors, Screw terminal, Right hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.2 – 2.5	09 33 024 4636	09 33 024 4736	

Han AV

Features

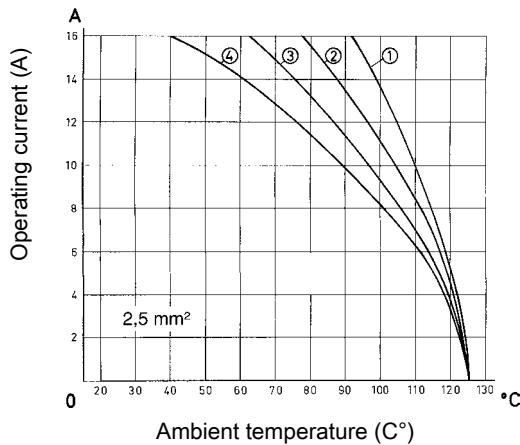
- For left or right hand applications available
- PE and connecting terminal for contact no.1 are at the top in both types of installation
- Mountable in standard bulkhead housing and on standard rails by using of fixing elements
- Reliable cage clamp termination

Derating

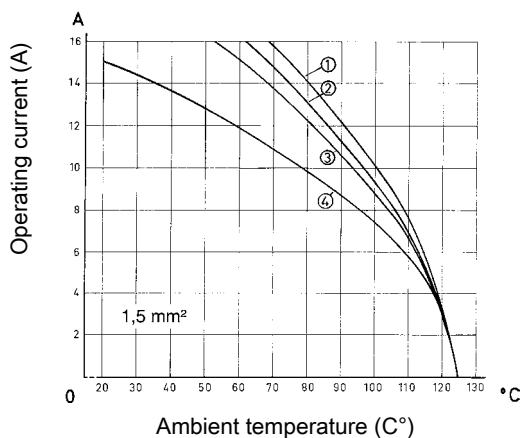
Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han® 6 ES AV
- ② Han® 10 ES AV
- ③ Han® 16 ES AV
- ④ Han® 24 ES AV



- ① Han® 6 ES AV
- ② Han® 10 ES AV
- ③ Han® 16 ES AV
- ④ Han® 24 ES AV

Technical characteristics

Contacts	6, 10, 16, 24
Electrical data acc. to IEC 61984	16 A 500 V 6 kV 3
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated current acc. to UL	12 A
Rated current acc. to CSA	12 A
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 61984
IEC 60664-1



Details

Identification strips Han® ES AV

Single contour (SK) the following identification strips may be used

- ♦ HARTING – 09 33 000 9973 (6 x 15)
- ♦ Murrplastik – KWI 6/15
- ♦ Wieland – 9705 A/6.7


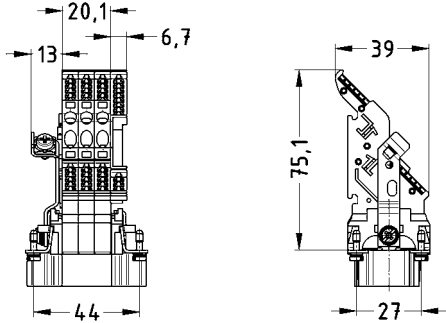

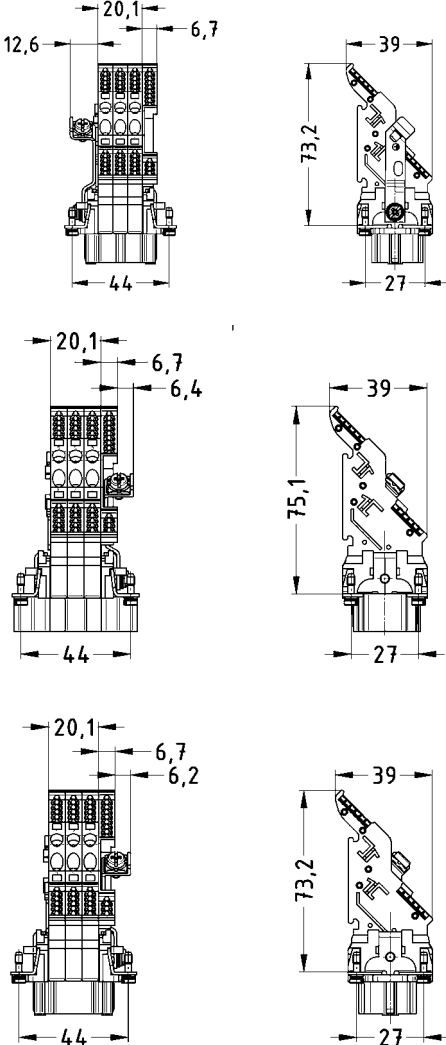
Identification

The individual terminals have the same identification as on the mating face. In addition each circuit may be separately labelled with identification strips fitted in the adjacent slots.

Number of contacts

6+

500 V
16 A


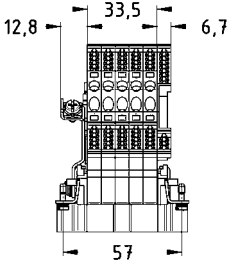
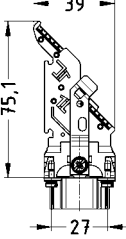
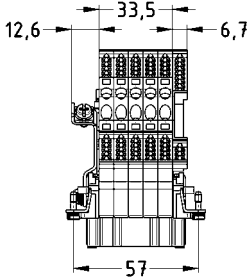
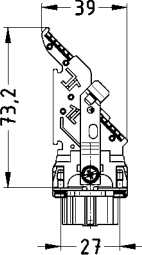

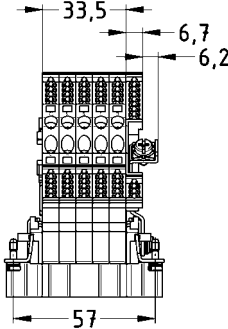
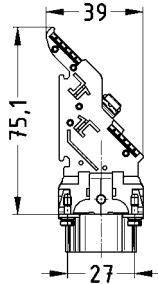
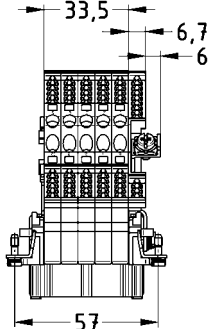
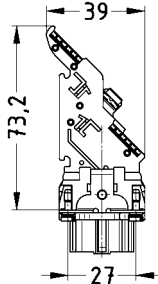
Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Terminal Block Connectors, Cage-clamp terminal, Left hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.14 – 2.5	09 33 006 4629	09 33 006 4729	
Terminal Block Connectors, Cage-clamp terminal, Right hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.14 – 2.5	09 33 006 4639	09 33 006 4739	

Number of contacts

10+

500 V
16 A


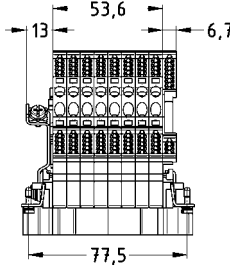
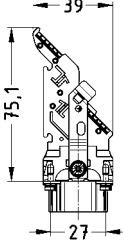

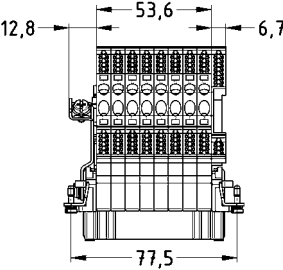
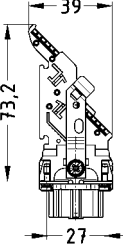
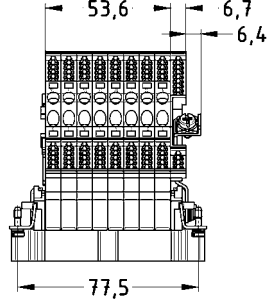
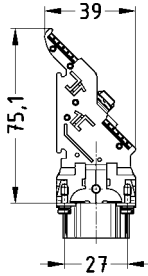
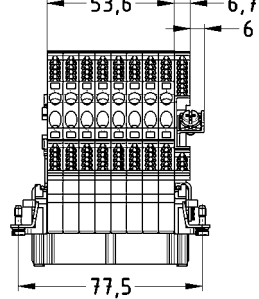
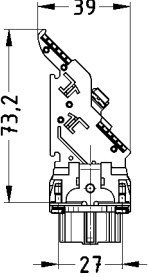
Han
AV

Identification	Wire cross section (mm²)	Part number		Drawing	
		male	female	Dimensions in mm	
Terminal Block Connectors, Cage-clamp terminal, Left hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.14 – 2.5	09 33 010 4629	09 33 010 4729		
					
Terminal Block Connectors, Cage-clamp terminal, Right hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.14 – 2.5	09 33 010 4639	09 33 010 4739		
					

Number of contacts

16+

500 V
16 A

Identification	Wire cross section (mm²)	Part number		Drawing	
		male	female	Dimensions in mm	
Terminal Block Connectors, Cage-clamp terminal, Left hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.14 – 2.5	09 33 016 4629	09 33 016 4729		
Terminal Block Connectors, Cage-clamp terminal, Right hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.14 – 2.5	09 33 016 4639	09 33 016 4739		
					
					


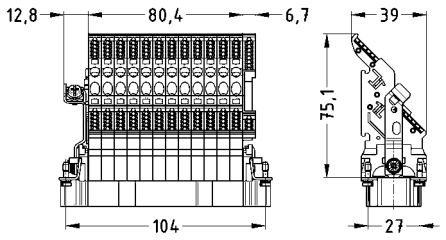

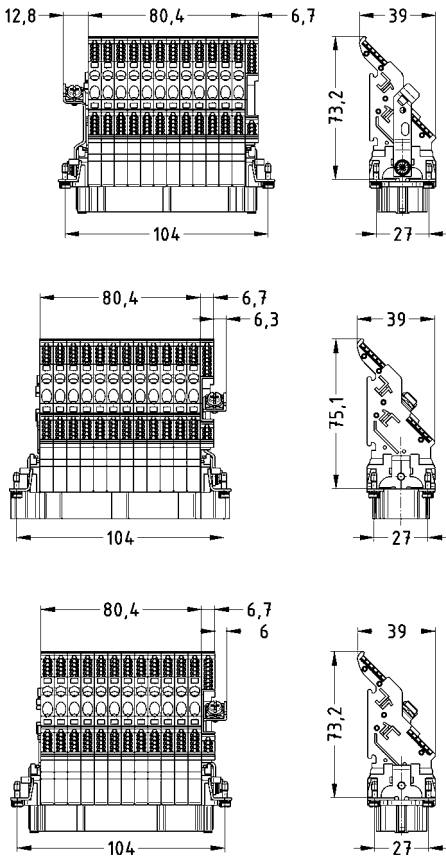
Han AV



Number of contacts

24+

500 V
16 A

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm
		male	female	
Terminal Block Connectors, Cage-clamp terminal, Left hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.14 – 2.5	09 33 024 4629	09 33 024 4729	
Terminal Block Connectors, Cage-clamp terminal, Right hand version, Single contour (SK), silver plated contacts, contact resistance ≤4 mOhm 	0.14 – 2.5	09 33 024 4639	09 33 024 4739	

Han
AV

Details

There are moulded slots at the rear of the terminal block connectors and distributors to accept the fixing elements. When used these elements, for example, can be used to secure the connectors inside the switch cabinets on standard rails.

Details

For mounting

Terminal block connector Han E® AV / Han® ES AV

Han® 6 E AV, Han® 6 ES AV = 1 fixing element


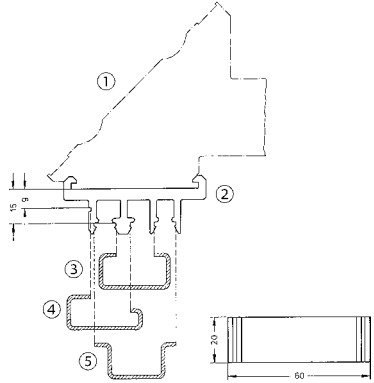

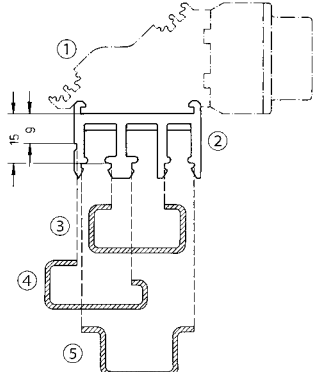
Han® 10/16/24 E AV, Han® 10/16/24 ES AV = 2 fixing elements

Terminal block connector Han D® AV

Han® 40/64 D AV = 2 fixing elements

Distributor = 1 fixing element

Han
AV

Identification	Part number	Drawing Dimensions in mm
<p>Han D® AV, Distributor, Fixing element</p> 	<p>09 33 000 9928</p>	 <ul style="list-style-type: none"> ① Terminal block connector Han D® AV ② Fixing element ③ C-rail IEC 60715-C 30 ④ G-rail IEC 60715-G32 ⑤ Rail IEC 60715-35 x 7.5 or -35 x 15
<p>Han E® AV, Han® ES AV, Fixing element</p> 	<p>09 33 000 9929</p>	 <ul style="list-style-type: none"> ① Terminal block connector Han E® AV ② Fixing element ③ C-rail IEC 60715-C 30 ④ G-rail IEC 60715-G32 ⑤ Rail IEC 60715-35 x 7.5 or -35 x 15

Han
AV

Identification

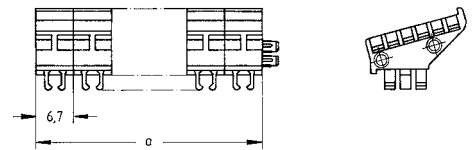
Part number

Drawing Dimensions in mm

Han E® AV,
Adapter,
to fit identification strips,
Multi-Contour (MK)



09 33 000 9964
09 33 000 9965
09 33 000 9966
09 33 000 9967

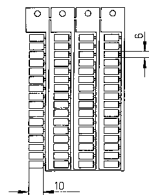


09 33 000 9964 Han® 6 E AV a = 26.8 mm
09 33 000 9965 Han® 10 E AV a = 40.2 mm
09 33 000 9966 Han® 16 E AV a = 60.3 mm
09 33 000 9967 Han® 24 E AV a = 87.4 mm

Han E® AV,
Identification strip,
Multi-Contour (MK)
Range of delivery:
64 pieces in one block



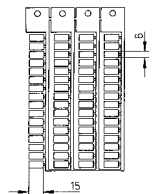
09 33 000 9971



Han® ES AV,
Identification strip,
Single-Contour (SK)
Range of delivery:
64 pieces in one block



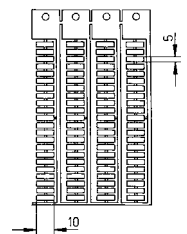
09 33 000 9973



Han D® AV,
Identification strip,
Multi-Contour (MK)
Range of delivery:
88 pieces in one block



09 21 000 9971



Contents

Page

Staf®

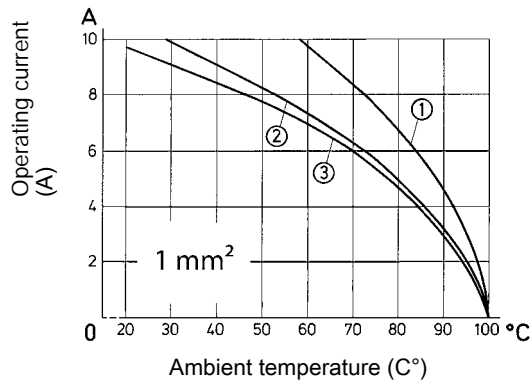
09.2

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Staf® 6
- ② Staf® 14
- ③ Staf® 20

Technical characteristics

Contacts	6, 14, 20, 40
Rated current	10 A
Rated voltage AC	25 V
Rated voltage DC	60 V
Rated voltage acc. to UL	50 V
Rated voltage acc. to CSA	50 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 100 °C
Flammability (insert) acc. to UL 94	HB
Mating cycles	≥500
Tightening torque	0.25 Nm
Flammability (seal) acc. to UL 94	HB
Material (insert)	polyamide
Colour (insert)	black
Material (contact)	copper alloy

Specifications and approvals

IEC 61984
IEC 60664-1



Details


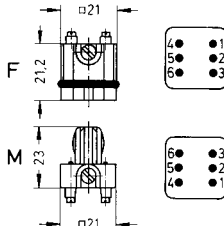

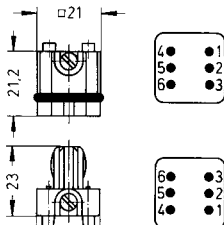

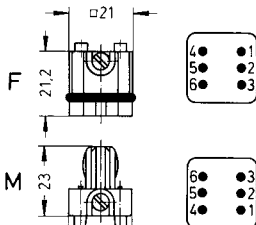

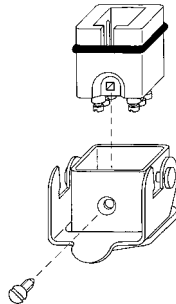
In accordance with the appropriate regulations a wire-end sleeve has to be used at clamps without wire protection (see "screw terminal", chapter 00).

Staf

Number of contacts

6

~ 25 V
 - 60 V
 10 A

Identification	Wire cross section (mm ²)	Part number	Drawing Dimensions in mm
<p>Staf®, Screw terminal, Male insert (F), silver plated contacts, contact resistance ≤2 mOhm</p> 	1.5	09 70 006 2616	 <p>Contact arrangement (view from termination side)</p>
<p>Staf®, Screw terminal, Female Insert (M), silver plated contacts, contact resistance ≤2 mOhm</p> 	1.5	09 70 006 2813	 <p>Contact arrangement (view from termination side)</p>
<p>Staf®, Solder terminal, Male insert (F), silver plated contacts, contact resistance ≤2 mOhm</p> 	2.5	09 70 006 2615	 <p>Contact arrangement (view from termination side)</p>
<p>Staf®, Solder terminal, Female Insert (M), silver plated contacts, contact resistance ≤2 mOhm</p> 	2.5	09 70 006 2812	 <p>Mounting example</p>


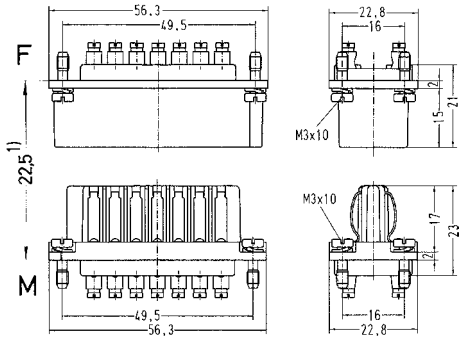

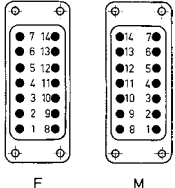

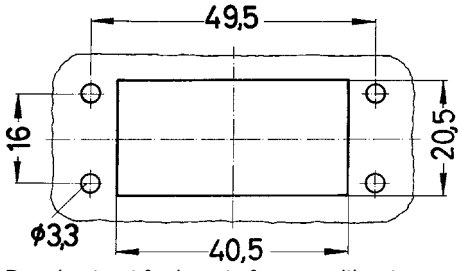

Staf

Number of contacts

14

~ 25 V
- 60 V
10 A


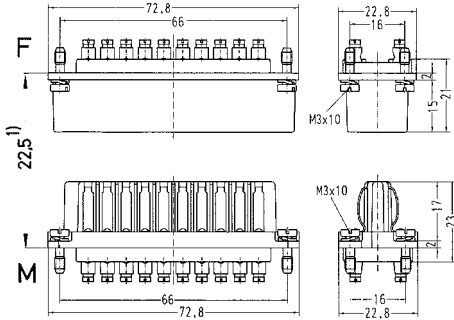

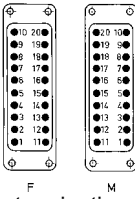

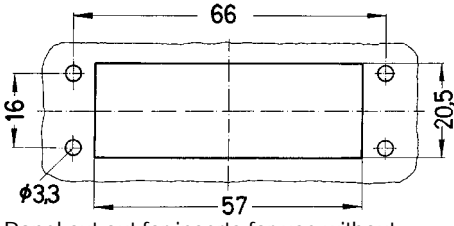

Staf

Identification	Wire cross section (mm ²)	Part number	Drawing Dimensions in mm
<p>Staf®, Screw terminal, Male insert (F), silver plated contacts, contact resistance ≤2 mOhm</p> 	1.5	09 70 014 2614	 <p>1) Distance for contact max. 24 mm</p>
<p>Staf®, Screw terminal, Female Insert (M), silver plated contacts, contact resistance ≤2 mOhm</p> 	1.5	09 70 014 2811	 <p>Contact arrangement (view from termination side)</p>
<p>Staf®, Solder terminal, Male insert (F), silver plated contacts, contact resistance ≤2 mOhm</p> 	2.5	09 70 014 2613	 <p>Panel cut out for inserts for use without hoods/housings</p>
<p>Staf®, Solder terminal, Female Insert (M), silver plated contacts, contact resistance ≤2 mOhm</p> 	2.5	09 70 014 2810	

Number of contacts

20

~ 25 V
 - 60 V
 10 A


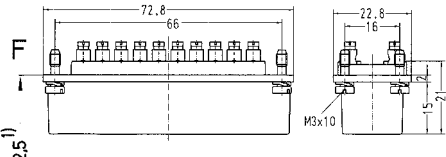
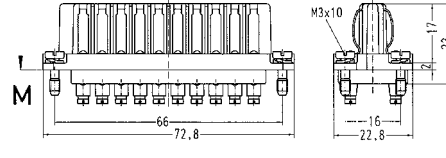
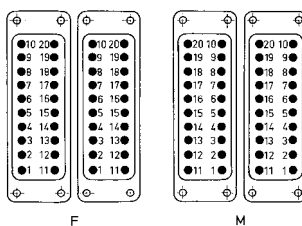

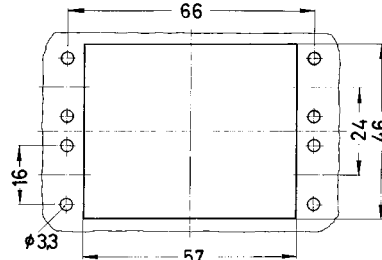

Identification	Wire cross section (mm²)	Part number	Drawing Dimensions in mm
Staf®, Screw terminal, Male insert (F), silver plated contacts, contact resistance ≤2 mOhm 	1.5	09 70 020 2622	 <p>1) Distance for contact max. 24 mm</p>
Staf®, Screw terminal, Female Insert (M), silver plated contacts, contact resistance ≤2 mOhm 	1.5	09 70 020 2817	 <p>Contact arrangement (view from termination side)</p>
Staf®, Solder terminal, Male insert (F), silver plated contacts, contact resistance ≤2 mOhm 	2.5	09 70 020 2621	 <p>Panel cut out for inserts for use without hoods/housings</p>
Staf®, Solder terminal, Female Insert (M), silver plated contacts, contact resistance ≤2 mOhm 	2.5	09 70 020 2816	

Staf

Number of contacts

40

~ 25 V
 - 60 V
 10 A

Identification	Wire cross section (mm ²)	Part number	Drawing Dimensions in mm
<p>Staf®, Screw terminal, Male insert (F), silver plated contacts, contact resistance ≤2 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	1.5	09 70 020 2622	  <p>1) Distance for contact max. 24 mm</p>  <p>Contact arrangement (view from termination side)</p>
<p>Staf®, Solder terminal, Male insert (F), silver plated contacts, contact resistance ≤2 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	2.5	09 70 020 2621	 <p>Panel cut out for inserts for use without hoods/housings</p>
<p>Staf®, Solder terminal, Female Insert (M), silver plated contacts, contact resistance ≤2 mOhm</p>  <p>Please order two inserts for a complete assembly!</p>	2.5	09 70 020 2816	

Staf

Contents	Page
Latching parts	11.3
Plastic panel mounting	11.5
Metal panel mounting	11.6
Insert mounting.....	11.7
Insert mounting with carrier element	11.8
Plastic housings.....	11.10
Accessories	11.15

Note:

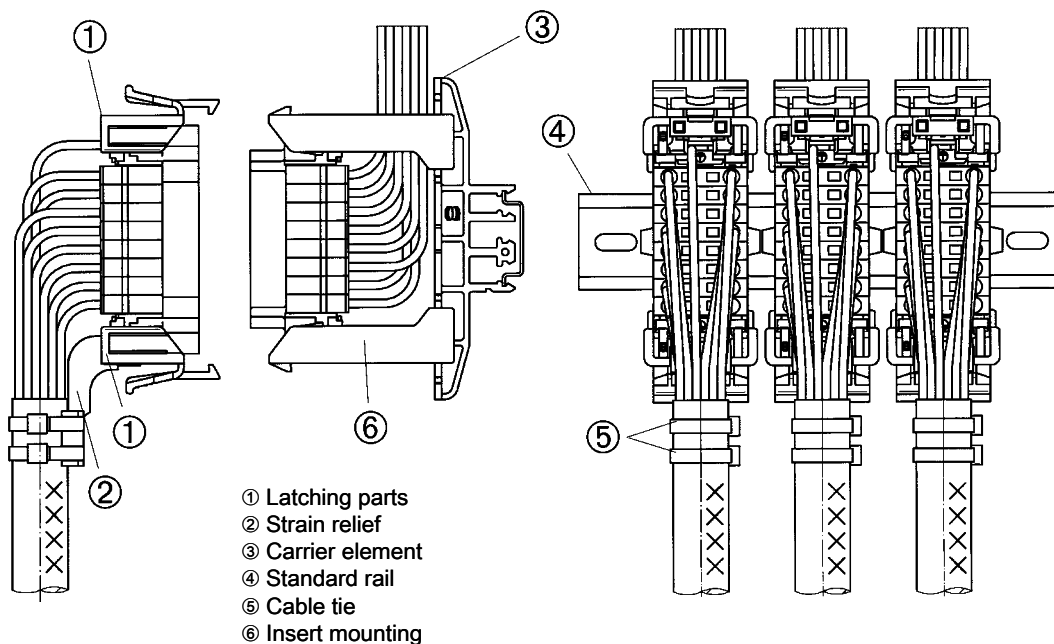
A connector mounted with Han-Snap® elements does not offer finger safe protection to the relevant standards. In this case protection against electric shock must be provided by the installation methods of the user. The fixing of the PE terminal must be conducted on equal side of the connector insert to avoid ground interruptions.

- The Han-Snap® system is ideal for connectors within closed electrical operating environments. These can be rooms, cabinets or termination boxes.
- The Han-Snap® components are an innovative design which offer the following advantages and characteristics:
 - reduction of material and assembly costs;
 - fast and easy installation;
 - preassembly of Han connectors;
 - secure and rigid mounting of Han connectors;
 - frequent use of latching systems is possible (up to several thousand cycles).
- The Han-Snap® elements are compatible with the standard inserts and terminal block connectors of the following series (named series Han B as follows)
 - Han D®, 40 and 64 pins
 - Han DD®
 - Han E®
 - Han® EE
 - Han® EEE
 - Han® ES
 - Han Hv E®
 - Han® Hv ES
 - Han® HsB
 - Han-Com®
 - Han-Modular®

- With the Han-Snap® adapter the following standard inserts are compatible (named series Han A as follows):
 - Han D®, 15 and 25 pins
 - Han A®, 10 and 16 pins
- The Han-Snap® elements are a mechanical system for the mounting assembly and security of Han connectors. Normally the elements are assembled to the connector insert using the standard insert fixing screws. If coding is required the standard fixing screws may be replaced by either code pins or guide pins and bushes.
- On free connectors the wires or cables can be secured to the strain relief element with standard cable ties of 5 mm width maximum.

Han-Snap

Han-Snap® on standard rail





Features

- Compact design saves space
- Practical and easy handling
- Reduction of material and assembly costs

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Tightening torque	0.8 Nm
Degree of protection acc. to IEC 60529	IP20
Retention force without guiding	200 N
Retention force with guiding	300 N
Vibration resistance	IEC 60068, part 2-6, BN 74018
Shock immunity	IEC 60068, part 2-27, BN 74018
Material (accessories)	polycarbonate
Colour (accessories)	RAL 7032 (light grey)

Details

Inserts can be mounted on the panel mounting part and the latching part with the standard insert mounting screws.

High mechanical security of the fixings.

No functional impairment is caused by slight over tightening of the fixing screws.

Alternatively, Han coding elements (code pins or guide pins and bushes) may be used.


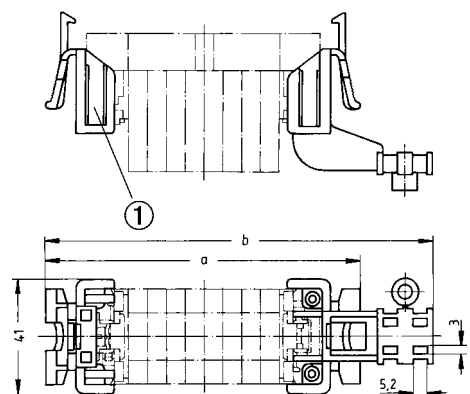
Please note: The strain relief element should be assembled to the latching part at the end of the insert opposite to the ground screw.


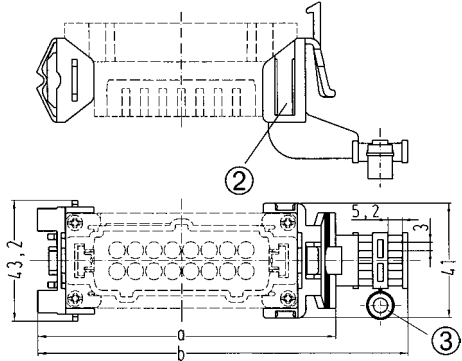

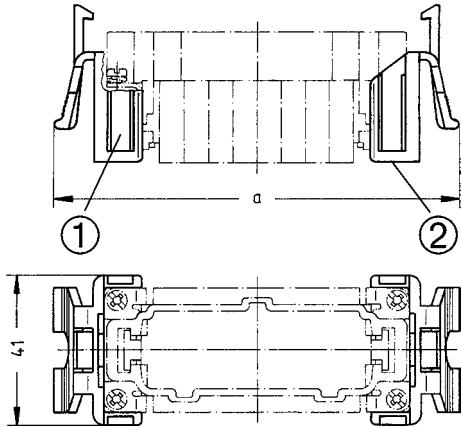
Up to 2 cable ties with max. 5 mm width can be used on the strain relief.

Label 9 x 20 mm may be fitted in both sides of each latching element.

Label 7 x 20 mm may be fitted to the top of the latching part without the strain relief element.

Han-Snap

Identification	Part number	Drawing Dimensions in mm
<p>Han-Snap®, Latching parts, with strain relief</p> <p>Range of delivery: 1 latching part with strain relief, 1 latching part</p> 	09 33 000 9991	 <p>① Slot for identification strip 9 x 20 6 B: a=78,5; b=105 10 B: a=91,5; b=118 16 B: a=112,5; b=138,5 24 B: a=138,5; b=165</p>

Identification	Part number	Drawing Dimensions in mm
<p>Han-Snap[®], Latching parts, with strain relief, and panel mounting parts</p> <p>Range of delivery: 1 latching part with strain relief, 1 panel mounting part</p> 	<p>09 33 000 9990</p>	 <p>② Slot for identification strip 9 x 20 ③ Distance bush 6 B: a=75; b=101 10 B: a=88; b=114 16 B: a=108.5; b=134.5 24 B: a=135; b=161</p>
<p>Han-Snap[®], Latching parts</p> <p>Range of delivery: 2 latching parts</p> 	<p>09 33 000 9987</p>	 <p>① Slot for identification strip 9 x 20 ② Slot for identification strip 7 x 20 6 B: a= 78.5 10 B: a= 91.5 16 B: a= 112.5 24 B: a= 138.5</p>

Han-Snap



Features

- Snap element for sheet-metal cut out
- Compact design saves space
- Practical and easy handling
- Reduction of material and assembly costs

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Tightening torque	0.8 Nm
Retention force without guiding	250 N, 400 N
Retention force with guiding	400 N, 500 N
Vibration resistance	IEC 60068, part 2-6, BN 74018
Shock immunity	IEC 60068, part 2-27, BN 74018
Material (accessories)	polycarbonate
Colour (accessories)	RAL 7032 (light grey)

Details


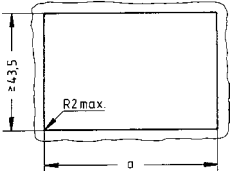
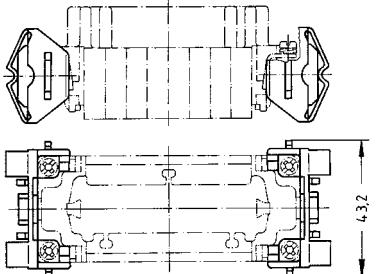
Connector inserts and terminal block connectors can be fixed on elements for panel mounting with standard insert mounting screws.

High mechanical security of the fixings. No functional impairment is caused by slight over tightening of the fixing screws.

Alternatively, Han coding elements (code pins or guide pins and bushes) may be used.

Connector assembly into the panel (sheet-metal) cut out or two parallel mounted rails is possible from mating or termination side.

Han-Snap

Identification	Part number	Drawing Dimensions in mm
<p>Han-Snap®, Panel mounting parts</p> <p>Range of delivery: 2 plastic panel mounting parts sufficient for one insert or terminal block connector</p> 	09 33 000 9985	<p>Panel cut out Sheet-metal thickness 1.3 - 3 mm</p>  <p>6 B: $a^{+0.5} = 65$ 10 B: $a^{+0.5} = 78$ 16 B: $a^{+0.5} = 98$ 24 B: $a^{+0.5} = 125$ 10 A: $a^{+0.5} = 81.5$ 16 A: $a^{+0.5} = 98$</p>  <p>Min. retention force in sheet-metal cut out Mating without guiding system 250 N Mating with guiding system 400 N Unmating without guiding system 400 N Unmating with guiding system 500 N</p>



Features

- Snap element for sheet-metal cut out
- Compact design saves space
- Practical and easy handling
- Reduction of material and assembly costs

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Tightening torque	0.8 Nm
Vibration resistance	IEC 60068, part 2-6, BN 74018
Shock immunity	IEC 60068, part 2-27, BN 74018
Material (accessories)	zinc die-cast

Specifications and approvals



Details

Connector inserts and terminal block connectors can be fixed on elements for panel mounting with standard insert mounting screws.

High mechanical security of the fixings.

Alternatively, Han coding elements (code pins or guide pins and bushes) may be used.

Connector assembly into the panel (sheet-metal) cut out or two parallel mounted rails is possible from mating or termination side.

Han-Snap

Identification

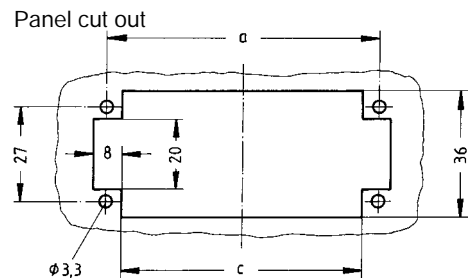
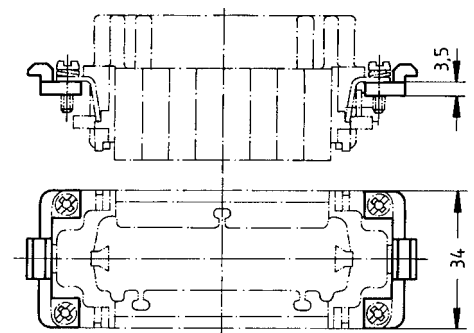
Han-Snap®,
Panel mounting parts
Range of delivery:
2 metallic panel mounting parts sufficient for one insert or terminal block connector



Part number

09 33 000 9984

Drawing Dimensions in mm



6 B: a=44; c=36
10 B: a=57; c=49
16 B: a=77.5; c=69.5
24 B: a=104; c=96



Features

- Insert is mounted with carrier element
- A practical solution to fix the insert directly on a standard rail
- Insert can be assembled to Han-Snap® element with screw-driver
- Compact design saves space

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Tightening torque	0.8 Nm
Retention force on rail	< 300 N (tension), < 1000 N (pressure)
Vibration resistance	IEC 60068, part 2-6, BN 74018
Shock immunity	IEC 60068, part 2-27, BN 74018
Material (accessories)	polycarbonate
Colour (accessories)	RAL 7032 (light grey)

Details

The insert mounting locks directly on standard rail 35 x 15 or 35 x 7.5 mm.

Inserts can be assembled on the insert mounting with the standard insert fixing screws.

High mechanical security of the fixings.

No functional impairment is caused by slight over tightening of the fixing screws.

Alternatively, Han® coding elements (code pins or guide pins and bushes) may be used.

The following labels may be fitted alternatively to the insert mounting parts for circuit identification purposes:

label 7 x 20 mm or

label 9 x 20 mm

Han-Snap

Identification	Part number	Drawing Dimensions in mm
Han-Snap®, Insert mounting Range of delivery: 2 insert mounting parts	09 33 000 9980	<p>① Slot for identification strip ② Rail IEC 60715-35 x 7.5 or -35 x 15 6 B: a= 57 10 B: a= 70 16 A / 16 B: a= 90.5 24 B: a= 117</p>



Features

- Insert is mounted with carrier element
- A practical solution to fix the insert directly on a standard rail
- Insert can be assembled to Han-Snap® element with screw-driver
- Compact design saves space

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Tightening torque	0.8 Nm
Retention force on rail	< 450 N
Vibration resistance	IEC 60068, part 2-6, BN 74018
Shock immunity	IEC 60068, part 2-27, BN 74018
Material (accessories)	polycarbonate
Colour (accessories)	RAL 7032 (light grey)

Details

The carrier element is the basic element to mount the inserts in the cross direction on standard rails, for example:

- ♦ Caprail, 35 x 7.5 or 35 x 15 acc. to DIN EN 60 715
- ♦ C-rail, C 30 acc. to DIN EN 60 715
- ♦ G-rail, G 32 acc. to DIN EN 60 715

Where vibration is likely to be encountered, use the 35 x 15 mounting rails. When using the large carrier element, the 35 x 15 mounting rails are recommended to give greater stability.

Insert mounting type 6/10 is suitable for inserts of sizes Han 6 B and Han 10 B.

Insert mounting type 6/24 is suitable for all insert sizes:

Han 6 B / 10 B / 16 B / 24 B,
Han 16 A with the corresponding adapter.

Inserts can be assembled to the insert mountings with the standard insert mounting screws.

High mechanical security of the fixings. No functional impairment is caused by slight over tightening of the fixing screws.

Alternatively, Han coding elements (code pins or guide pins and bushes) may be used.

The following labels may be fitted to the insert mounting parts for circuit identification purposes:

- label 7 x 20 mm or
- label 9 x 20 mm

Identification

Han-Snap®,
Insert mounting,
with carrier element,
Type 6/10

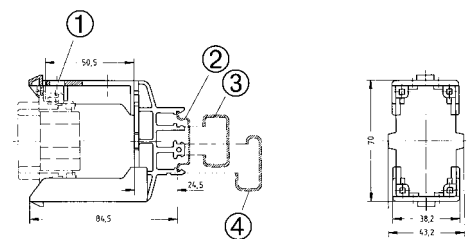
Range of delivery:
2 insert mounting parts,
1 carrier element


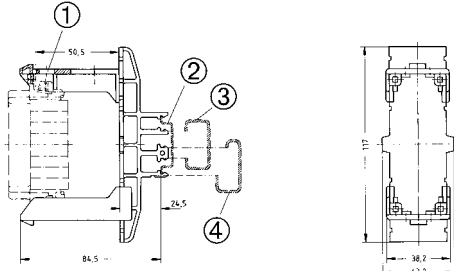

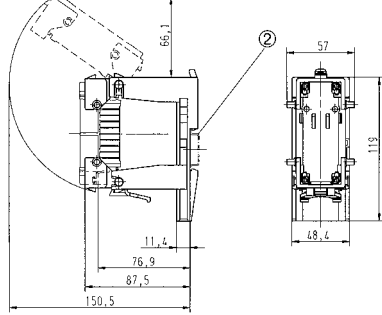



Part number

09 33 000 9988

Drawing Dimensions in mm



Identification	Part number	Drawing Dimensions in mm
<p>Han-Snap[®], Insert mounting, with carrier element, Type 6/24</p> <p>Range of delivery: 2 insert mounting parts, 1 carrier element</p> 	<p>09 33 000 9989</p>	 <p>① Slot for identification strip ② Rail IEC 60715-35 x 7.5 or -35 x 15 ③ C-rail IEC 60715-C 30 ④ G-rail IEC 60715-G32</p>
<p>Han-Snap[®], Insert mounting, swinging, for standard inserts</p> 	<p>09 33 000 9801</p>	 <p>② Rail IEC 60715-35 x 7.5 or -35 x 15</p>
<p>Han-Snap[®], Insert mounting, swinging, for Han-Modular[®] hinged frames</p> 	<p>09 33 000 9803</p>	

Features

- Ideal for use within closed electrical operation environments
- Allows use of preassembled cables
- Optimised cost of material and assembly
- Insert can be assembled to Han-Snap® element with screwdriver

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Tightening torque	0.8 Nm
Vibration resistance	IEC 60068, part 2-6, BN 74018
Shock immunity	IEC 60068, part 2-27, BN 74018
Tightening torque (locking)	0.8 Nm
Material (hoods/housings)	polycarbonate
Colour (hoods/housings)	RAL 7032 (light grey)
Material (accessories)	polycarbonate
Colour (accessories)	RAL 7032 (light grey)

Details

2 identical half shells form a shell housing.

Each housing has 3 cable entries, one on top and one at each end. 2 x cable entries can be closed by enclosed blind plugs.

In the area of cable entries there are rectangular openings for mounting of cable ties up to max. 5 mm width.

In the mating area both housing shells are fixed by the standard insert fixing screws.

To release the half shells use screw driver (3.5 x 0.5).

Alternatively, Han® coding elements (code pins or guide pins and bushings) may be used.

High mechanical security of the fixings.

No functional impairment is caused by slight over tightening of the fixing screws. The blind plugs have slots for identification strips.

The following labels can be fitted:


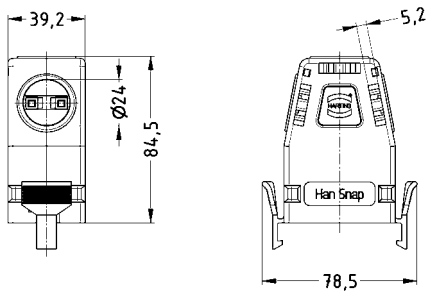

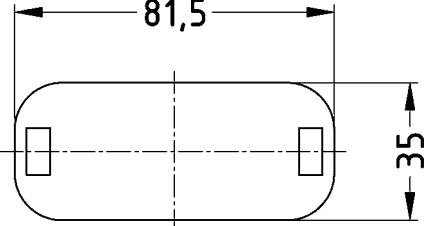
label 7 x 20 mm or

label 9 x 20 mm


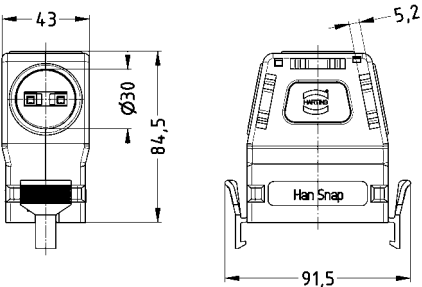

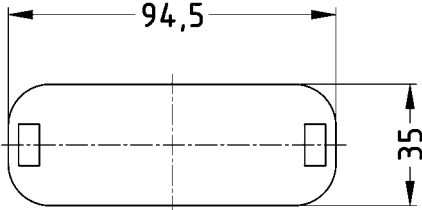
Han A-size 16 by using the corresponding adapter

Inserts can be assembled to the adapters with the standard insert fixing screws.


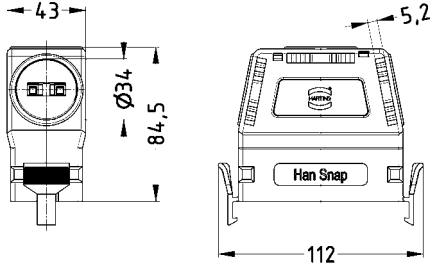

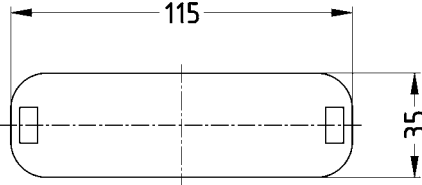

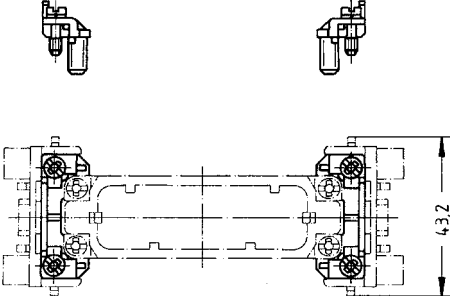
With the included screws the adapter can be fixed to the selected Han-Snap® element.

Identification	Part number	Drawing Dimensions in mm
<p>Han-Snap®, Plastic housings</p> <p>Range of delivery: 2 half shells with blind plugs</p> 	<p>09 33 006 0401</p>	
<p>Han-Snap®, Protection cover, plastic</p> 	<p>09 33 006 5401</p>	

Han-Snap

Identification	Part number	Drawing Dimensions in mm
<p>Han-Snap®, Plastic housings</p> <p>Range of delivery: 2 half shells with blind plugs</p> 	<p>09 33 010 0401</p>	
<p>Han-Snap®, Protection cover, plastic</p> 	<p>09 33 010 5401</p>	


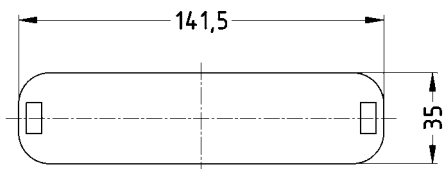
Han-Snap


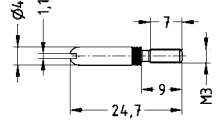
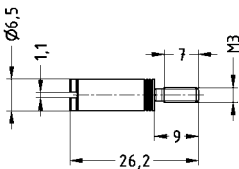
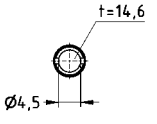

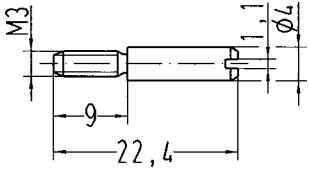
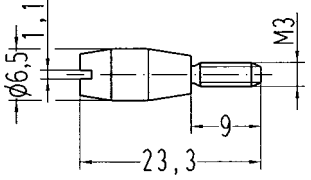
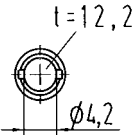
Identification	Part number	Drawing Dimensions in mm
<p>Han-Snap®, Plastic housings</p> <p>Range of delivery: 2 half shells with blind plugs</p> 	<p>09 33 016 0401</p>	
<p>Han-Snap®, Protection cover, plastic</p> 	<p>09 33 016 5401</p>	
<p>Han A®, Adapter</p> <p>Range of delivery: 2 adapters, 4 fixing screws</p> 	<p>09 20 000 9933</p>	

Han-Snap


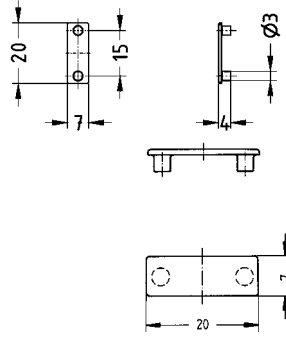
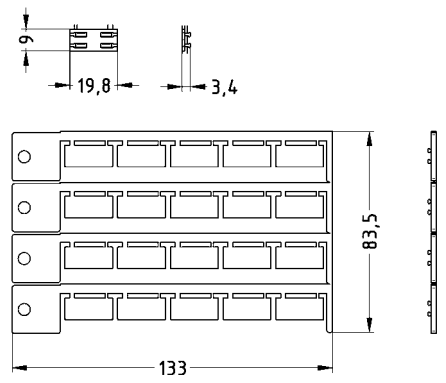
Identification	Part number	Drawing Dimensions in mm
<p>Han-Snap®, Plastic housings</p> <p>Range of delivery: 2 half shells with blind plugs</p> 	<p>09 33 024 0401</p>	

Han-Snap

<p>Han-Snap®, Protection cover, plastic</p> 	<p>09 33 024 5401</p>	
---	-----------------------	--

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>standard, Coding system with guide pins/bushes, for application "insert with screw adapter" with/ without grip frame</p>  <p>Please order 4 pieces for one connector</p>	09 33 000 9808	09 33 000 9809	  
<p>Coding element, only for swinging insert mountings</p> 	09 33 000 9956	09 33 000 9957	  

Han-Snap

Identification	Part number	Drawing Dimensions in mm
<p>Identification strip Range of delivery: single</p> 	<p>09 33 000 9981</p>	
<p>Identification strip Range of delivery: 20 pieces in one block</p>	<p>09 33 000 9982</p>	

Han-Snap

Contents	Page
Plug sockets	12.3
Frames	12.5
Data connectors	12.8
Wires	12.13
Gender changer.....	12.14
Accessories	12.15

Overview plug sockets

Plug sockets	<u>Germany (VDE)</u>	<u>USA / Euro</u>	<u>USA (NEMA5-15)/ Japan</u>	<u>France (UTE)</u>
Nominal voltage, max.	250 V AC	250 V AC	125 V AC	250 V AC
Nominal frequency	50 Hz AC	60 Hz AC	50 Hz AC	50 Hz AC
Nominal current, max.	10 ... 16 A	15 A	15 A	10 ... 16 A
LED display	Yellow ¹⁾	-	-	Yellow
Termination	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Mounting depth assembled	approx. 62 mm	approx. 30 mm	approx. 30 mm	approx. 62 mm
Plug sockets	<u>Switzerland</u>	<u>Great Britain (BS)</u>	<u>Italy (CEI 23-16)</u>	<u>Australia / China</u>
Nominal voltage, max.	250 V AC	250 V AC	250 V AC	240 V AC
Nominal frequency	50 Hz AC	50/60 Hz AC	50 Hz AC	50/60 Hz AC
Nominal current, max.	10 A	13 A	10 ... 16 A	15 A
LED display	-	-	-	-
Termination	Spring clamp terminal	Screw terminal	Screw terminal	Screw terminal
Mounting depth assembled	approx. 20 mm	approx. 20 mm	approx. 20 mm	approx. 20 mm
Plug sockets	<u>Denmark</u>	<u>India</u>	<u>Brazil</u>	
Nominal voltage, max.	250 V AC	240 V AC	250 V AC	
Nominal frequency	50 Hz AC	50 Hz AC	60 Hz AC	
Nominal current, max.	13 A	13 A	10 A	
LED display	-	-	-	
Termination	Spring clamp terminal	Screw terminal	Screw terminal	
Mounting depth assembled	approx. 20 mm	approx. 17 mm	approx. 35 mm	

Features

- Plug sockets for the European and international market
- Modular assembly
- Plug sockets to mount or snap into mounting plates

Technical characteristics

Material (hoods/housings)	thermoplastic
Colour (hoods/housings)	grey, RAL 1016 (sulphur yellow)
Weight	<36 g
Nominal voltage, max.	250 V, 125 V, 240 V
Nominal frequency	50 Hz, 60 Hz
Nominal current, max.	16 A, 15 A, 13 A, 6 A
Mounting depth	62 mm, 30 mm, 20 mm

Details

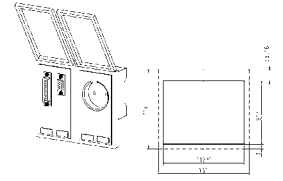
For detailed technical characteristics see previous page

Identification	Wire cross section (mm ²)	Part number
Han-Port [®] , Plug socket, Germany (VDE), with LED display, Screw terminal connection at the rear	-6	39 50 001 0001
Han-Port [®] , Plug socket, USA (NEMA5-15) / Japan, Screw terminal finger safe	-6	39 50 001 0004
Han-Port [®] , Plug socket, France (UTE), Screw terminal connection at the rear	-6	39 50 001 0005
Han-Port [®] , Plug socket, Great Britain (BS), Screw terminal finger safe	-4	39 50 001 0006



Identification	Wire cross section (mm ²)	Part number	
Han-Port [®] , Plug socket, Italy (CEI 23-16), double, Screw terminal finger safe	-2.5	39 50 001 0007	
Han-Port [®] , Plug socket, Australia / China, Screw terminal	-2.5	39 50 001 0009	
Han-Port [®] , Plug socket, USA / Euro, Screw terminal finger safe	-6	39 50 001 0010	
Han-Port [®] , Plug socket, India, Screw terminal	-4	39 50 001 0321	
Han-Port [®] , Plug socket, Brazil, Screw terminal	-2.5	39 50 001 0331	
Han-Port [®] , Plug socket, Switzerland, Spring clamp terminal	-1.5	39 50 001 0012	
Han-Port [®] , Plug socket, Denmark, Spring clamp terminal	-6	39 50 001 0017	
Han-Port [®] , Plug socket, Germany (VDE) for assembly in front of main switch connection at the rear	-6	39 50 001 0002	

Han-Port



Features

- Suitable for rough industrial environments (degree of protection IP65 with closed cover)
- Modular assembly
- Various mounting plates with plug sockets and data interfaces available

Technical characteristics

Stock temperature -25 °C ... 60 °C
 Degree of protection acc. to IEC IP65
 60529
 Material (hoods/housings) thermoplastic

Specifications and approvals



Identification

Part number

Han-Port®,
 single frame,
 plastic version, PBT black,
 plastic cover, PC transparent

39 50 000 0300



Han-Port®,
 single frame,
 plastic version, PBT black,
 plastic cover, ABS metallic silver

39 50 000 0320



Han-Port®,
 double frame,
 plastic version, PBT black,
 plastic cover, PC transparent

39 50 000 0400

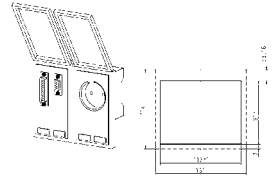


Han-Port®,
 double frame,
 plastic version, PBT black,
 plastic cover, ABS metallic silver

39 50 000 0420



Han-Port



Features

- Suitable for rough industrial environments (degree of protection IP65 with closed cover)
- Modular assembly
- Various mounting plates with plug sockets and data interfaces available

Technical characteristics

Stock temperature -25 °C ... 60 °C
 Degree of protection acc. to IEC 60529 IP65
 Material (hoods/housings) zinc die cast, smoothed surface

Identification

Part number

Han-Port®,
 single frame,
 metal version, nickel plated (electrically conductive),
 transparent plastic cover

39 50 000 0100

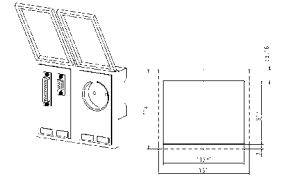


Han-Port®,
 double frame,
 metal version, nickel plated (electrically conductive),
 transparent plastic cover

39 50 000 0200



Han-Port



Features

- Suitable for rough industrial environments (degree of protection IP65 with closed cover)
- Modular assembly
- Various mounting plates with plug sockets and data interfaces available

Technical characteristics

Stock temperature -25 °C ... 60 °C
 Degree of protection acc. to IEC 60529 IP65
 Material (hoods/housings) zinc die cast, smoothed surface

Identification

Part number

Han-Port®,
 single frame,
 metal version, nickel plated (electrically conductive),
 metal cover, nickel plated

39 50 000 0110

Han-Port®,
 single frame,
 metal version, CPD black,
 metal cover, CPD black

39 50 000 0120

Han-Port®,
 double frame,
 metal version, nickel plated (electrically conductive),
 metal cover, nickel plated

39 50 000 0210



Han-Port

Features

- Standard interfaces for easy connection of devices
- Modular assembly
- Assembled data connectors to snap into the frame
- Frames with or without shielding plate

Technical characteristics

Nominal voltage, max.	125 V, 150 V, 50 V, 30 V
Nominal current, max.	3 A, 1 A
Mounting depth	32 mm, 80 mm

Details

D-Sub: < 125 V AC / 150 V DC / 3 A

Mounting depth 32 mm

RJ45: < 50 V AC/DC / 1 A

Mounting depth 32 mm

USB: < 30 V AC/DC / 1 A

Mounting depth 80 mm

Identification

Part number

Han-Port®,
Data connectors, without shielding plate,
D-Sub 9 female/male gender changer,
D-Sub 9 female/male gender changer,
DIN 41652 / IEC 60807-1

39 50 003 0020



Han-Port®,
Data connectors, without shielding plate,
D-Sub 9 female/female gender changer,
DIN 41652 / IEC 60807-1

39 50 003 0024



Han-Port®,
Data connectors, without shielding plate,
D-Sub 9 female/male gender changer,
D-Sub 25 female/male gender changer,
DIN 41652 / IEC 60807-1

39 50 003 0040



Han-Port®,
Data connectors, without shielding plate,
D-Sub 25 female/male gender changer,
DIN 41652 / IEC 60807-1

39 50 003 0074



Han-Port®,
Data connectors, without shielding plate,
RJ45 female/female gender changer, 8-pins, metal, Cat. 5e,
D-Sub 9 female/female gender changer,
D-Sub 9 male/male gender changer,
DIN 41652 / IEC 60807-1

39 50 003 0111



Han-Port®,
Data connectors, without shielding plate,
RJ45 female/female gender changer, 8-pins, metal, Cat. 5e,
D-Sub 9 male/male gender changer,
D-Sub 9 male/male gender changer,
D-Sub 9 male/male gender changer,
DIN 41652 / IEC 60807-1

39 50 003 0129



Han-Port

Identification

Part number

Han-Port®,
Data connectors, without shielding plate,
RJ45 female/female gender changer, 8-pins, metal, Cat. 5e,
D-Sub 9 female/male gender changer,
D-Sub 25 female/male gender changer,
DIN 41652 / IEC 60807-1

39 50 003 0170



Han-
Port

Identification

Part number

Han-Port®,
Data connectors, with shielding plate,
RJ45 female/female gender changer, 8-pins, metal, Cat. 5e,
RJ45 female/female gender changer, 8-pins, metal, Cat. 5e

39 50 002 0120



Han-Port®,
Data connectors, with shielding plate,
RJ45 female/female gender changer, 8-pins, metal, Cat. 5e,
RJ45 female/female gender changer, 8-pins, metal, Cat. 5e,
RJ45 female/female gender changer, 8-pins, metal, Cat. 5e,
RJ45 female/female gender changer, 8-pins, metal, Cat. 5e

39 50 002 0122



Han-Port®,
Data connectors, with shielding plate,
USB female/female gender changer, size A according to specification 3.0,
USB female/female gender changer, size A according to specification 3.0

39 50 002 0093



Han-Port®,
Data connectors, with shielding plate,
USB female/female gender changer, size A according to specification 3.0,
RJ45 female/female gender changer, 8-pins, metal, Cat. 5e,
D-Sub 9 male/male gender changer,
D-Sub 9 male/male gender changer

39 50 002 0117



Han-Port®,
Data connectors, with shielding plate,
USB female/female gender changer, size A according to specification 3.0,
RJ45 female/female gender changer, 8-pins, metal, Cat. 5e,
RJ45 female/female gender changer, 8-pins, metal, Cat. 5e

39 50 002 0133



Han-Port®,
Data connectors, with shielding plate,
USB female/female gender changer, size A according to specification 3.0,
RJ45 female/female gender changer, 8-pins, metal, Cat. 5e,
D-Sub 9 female/male gender changer






39 50 002 0143



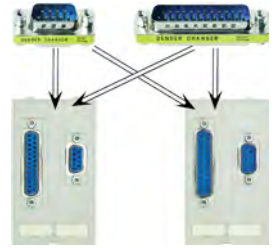
Han-Port

Identification	Part number	
<p>Han-Port®, Data connectors, with shielding plate, USB female/female gender changer, size A according to specification 3.0, RJ45 female/female gender changer, 8-pins, metal, Cat. 5e, D-Sub 25 female/male gender changer</p>	<p>39 50 002 0145</p>	
<p>Han-Port®, Data connectors, with shielding plate, RJ45 female/female gender changer, 8-pins, metal, Cat. 5e, RJ45 female/female gender changer, 8-pins, metal, Cat. 5e, D-Sub 9 female/female gender changer</p>	<p>39 50 002 0163</p>	

Han-Port

Identification	Cable length	Part number	
USB, male/male, Patch cable, type A	2 m 5 m	39 50 903 0050 39 50 903 0051	
RJ45, 8-pins, metal, Patch cable, Cat. 5e	2 m 5 m	39 50 903 0060 39 50 903 0061	
D-Sub 9, male/male, Patch cable	2 m 5 m	39 50 903 0010 39 50 903 0011	
D-Sub 9, female/male, Patch cable	2 m 5 m	39 50 903 0020 39 50 903 0021	
D-Sub 25, female/male, Patch cable	1.8 m 5 m	39 50 903 0040 39 50 903 0041	

Hand-
Port



Identification

Part number

Han-Port®,
Gender changer,
D-Sub 9,
female/female

39 50 904 0030



Han-Port®,
Gender changer,
D-Sub 9,
female/male

39 50 904 0031



Han-Port®,
Gender changer,
D-Sub 9,
male/male

39 50 904 0032



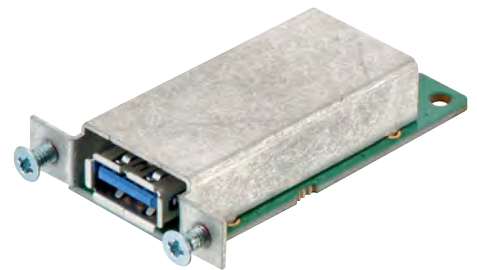
Han-Port®,
Gender changer,
D-Sub 25,
female/female

39 50 904 0050



Han-Port®,
Gender changer,
USB female/female gender changer, size A according to specification 3.0

39 50 904 0020



Han-Port®,
Gender changer,
RJ45 female/female gender changer, 8-pins, metal, Cat. 5e

39 50 904 0010



Han-Port

Identification	Part number
----------------	-------------

Han-Port®,
Blind plate,
with perforated cut-outs for gender changer RJ45, USB and
D-Sub 25

39 50 000 0851

Han-Port®,
Blind plate,
free space for self assembly of connectors or switches: 45 x 75
mm

39 50 000 0890

Han-Port®,
Identification strip
Range of delivery:
20 pieces per frame

39 50 000 0900



Han-Port

Contents	Page
Han® Q 2/0 Crimp	13.2
Han® Q 2/0 Crimp High Voltage.....	13.4
Han® Q 2/0 Axial screw.....	13.6
Han® Q 2/0 Axial screw High Voltage	13.8
Han® Q 3/0 Crimp	13.10
Han® Q 4/0 Crimp	13.12
Han® Q 4/2 Crimp	13.14
Han® Q 4/2 Axial screw.....	13.16
Han® Q 5/0 Quick Lock.....	13.18
Han® Q 5/0 Crimp	13.20
Han® Q 7/0 Crimp	13.23
Han® Q 8/0 Quick Lock.....	13.25
Han® Q 8/0 Crimp	13.27
Han® Q 12/0 Crimp/Quick Lock	13.30
Han® Q 17 Crimp	13.33
Han® Q High Density Crimp.....	13.35
Han® Q Data RJ45.....	13.37
Plastic hoods/housings.....	13.39
Hoods/Housings, metal	13.43
EMC hoods/housings	13.47
Accessories	13.50

Features

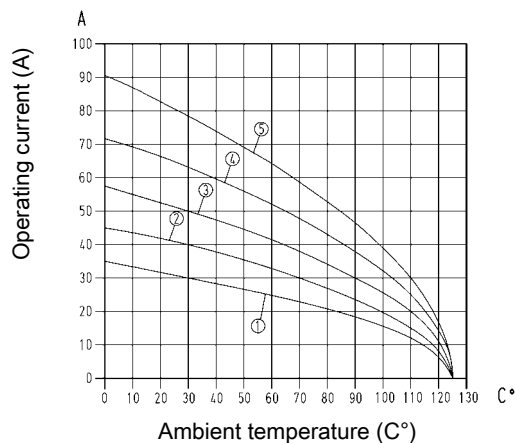
- High current rated compact designed connector
- Mating compatible to the axial screw version
- Suitable for Han® C crimp contacts
- Allows a cost optimised production of high quantities
- Finger safe male and female contacts
- 16 coding options

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 1.5 mm²
- ② Wire cross section 2.5 mm²
- ③ Wire cross section 4 mm²
- ④ Wire cross section 6 mm²
- ⑤ Wire cross section 10 mm²

Technical characteristics

Contacts	2/0
Electrical data acc. to IEC 61984	40 A 400 V 6 kV 3
Rated current	40 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

By using in Han® 3 A HPR hoods/housings the sealing on the insert has to be removed.

Number of contacts

2/0+

400 V
40 A

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm																		
		male	female																			
<p>Han® Q, Crimp terminal</p> <p>Please order crimp contacts separately.</p>		09 12 002 3051	09 12 002 3151	<p>Contact arrangement (view from termination side)</p>																		
<p>Han® C, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm</p> <p>Coding element, plastic</p>	1.5 2.5 4 6 10	09 32 000 6104 09 32 000 6105 09 32 000 6107 09 32 000 6108 09 32 000 6109	09 32 000 6204 09 32 000 6205 09 32 000 6207 09 32 000 6208 09 32 000 6209	<table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>1.5 mm² AWG 16</td> <td>1.75</td> <td>9.5 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25</td> <td>9.5 mm</td> </tr> <tr> <td>4 mm² AWG 12</td> <td>2.85</td> <td>9.5 mm</td> </tr> <tr> <td>6 mm² AWG 10</td> <td>3.5</td> <td>9.5 mm</td> </tr> <tr> <td>10 mm² AWG 8</td> <td>4.3</td> <td>12 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	1.5 mm² AWG 16	1.75	9.5 mm	2.5 mm² AWG 14	2.25	9.5 mm	4 mm² AWG 12	2.85	9.5 mm	6 mm² AWG 10	3.5	9.5 mm	10 mm² AWG 8	4.3	12 mm
Wire gauge	∅	Stripping length																				
1.5 mm² AWG 16	1.75	9.5 mm																				
2.5 mm² AWG 14	2.25	9.5 mm																				
4 mm² AWG 12	2.85	9.5 mm																				
6 mm² AWG 10	3.5	9.5 mm																				
10 mm² AWG 8	4.3	12 mm																				

Features

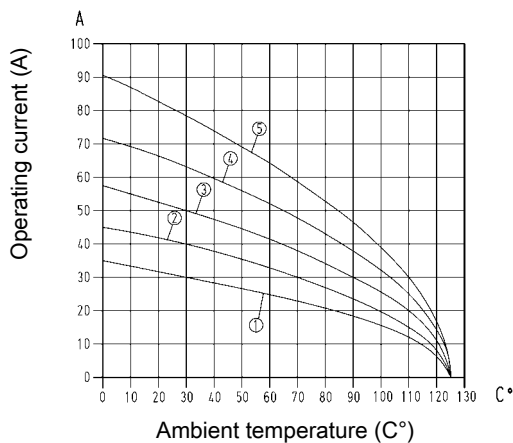
- High current rated compact designed connector
- Mating compatible to the axial screw version
- Suitable for Han® C crimp contacts
- Allows a cost optimised production of high quantities
- Finger safe male and female contacts
- 16 coding options
- For high voltages, please use heat shrink tube (included in delivery range)

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 1.5 mm²
- ② Wire cross section 2.5 mm²
- ③ Wire cross section 4 mm²
- ④ Wire cross section 6 mm²
- ⑤ Wire cross section 10 mm²

Technical characteristics

Contacts	2/0
Electrical data acc. to IEC 61984	40 A 830 V 6 kV 3
Rated current	40 A
Rated voltage	830 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

By using in Han® 3 A HPR hoods/housings the sealing on the insert has to be removed.

Number of contacts

2/0+

830 V
40 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																		
		male	female																			
<p>Han® Q, Crimp terminal</p> <p>Range of delivery: with heat shrink tube</p> <p>Please order crimp contacts separately.</p>		09 12 002 3052	09 12 002 3152	<p>41,55 21 25 33,8 21 25</p> <p>Contact arrangement (view from termination side)</p>																		
<p>Han® C, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm</p>	1.5 2.5 4 6 10	09 32 000 6104 09 32 000 6105 09 32 000 6107 09 32 000 6108 09 32 000 6109	09 32 000 6204 09 32 000 6205 09 32 000 6207 09 32 000 6208 09 32 000 6209	<p>0,6 0,6 1,2 29,1 23,4</p> <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>1.5 mm² AWG 16</td> <td>1.75</td> <td>9.5 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25</td> <td>9.5 mm</td> </tr> <tr> <td>4 mm² AWG 12</td> <td>2.85</td> <td>9.5 mm</td> </tr> <tr> <td>6 mm² AWG 10</td> <td>3.5</td> <td>9.5 mm</td> </tr> <tr> <td>10 mm² AWG 8</td> <td>4.3</td> <td>12 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	1.5 mm ² AWG 16	1.75	9.5 mm	2.5 mm ² AWG 14	2.25	9.5 mm	4 mm ² AWG 12	2.85	9.5 mm	6 mm ² AWG 10	3.5	9.5 mm	10 mm ² AWG 8	4.3	12 mm
Wire gauge	∅	Stripping length																				
1.5 mm ² AWG 16	1.75	9.5 mm																				
2.5 mm ² AWG 14	2.25	9.5 mm																				
4 mm ² AWG 12	2.85	9.5 mm																				
6 mm ² AWG 10	3.5	9.5 mm																				
10 mm ² AWG 8	4.3	12 mm																				
<p>Coding element, plastic</p>		09 12 000 9922	09 12 000 9922	<p>30,1 4,3 4,3</p>																		

Han Q

Features

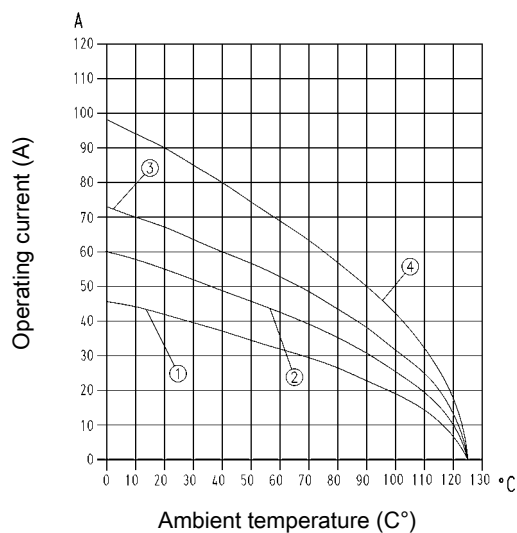
- High current rated compact designed connector
- Mating compatible to the crimp version
- Finger safe male and female contacts
- 16 coding options
- No special tools required for axial-screw termination

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 2.5 mm²
- ② Wire cross section 4 mm²
- ③ Wire cross section 6 mm²
- ④ Wire cross section 10 mm²

Technical characteristics

Contacts	2/0
Electrical data acc. to IEC 61984	40 A 400 V 6 kV 3
Rated current	40 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	400 V
Rated voltage acc. to CSA	400 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Tightening torque	1.8 Nm
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

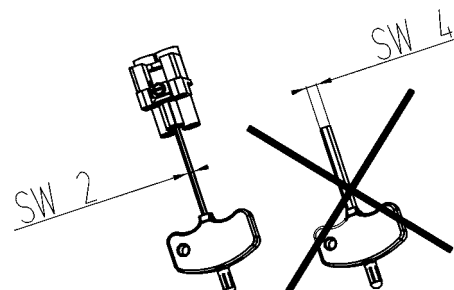
Specifications and approvals

IEC 60664-1
IEC 61984



Details

By using in Han® 3 A HPR hoods/housings the sealing on the insert has to be removed.


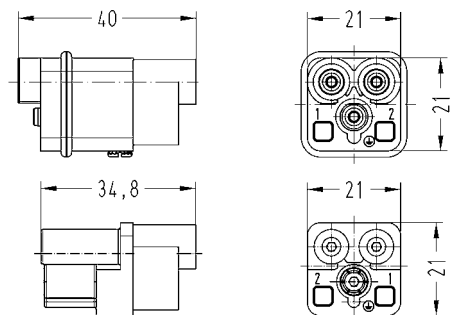

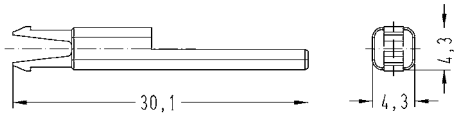


For termination please use only hexagonal screw driver with wrench size SW 2.
If PE contact is not used: Please screw the PE contact maximal on both sides clockwise with a hexagonal screwdriver, wrench size SW 2.

Number of contacts

2/0+

400 V
40 A

Identification	Wire cross section (mm²)	Part number male female		Drawing Dimensions in mm	
<p>Han® Q, Axial screw terminal, silver plated contacts, contact resistance ≤1 mOhm</p> 	<p>2.5-6 4-10</p>	<p>09 12 002 2653 09 12 002 2651</p>	<p>09 12 002 2753 09 12 002 2751</p>	 <p>Stripping length 8-9 mm</p>	
<p>Coding element, plastic</p> 		<p>09 12 000 9922</p>	<p>09 12 000 9922</p>		

Han Q

Features

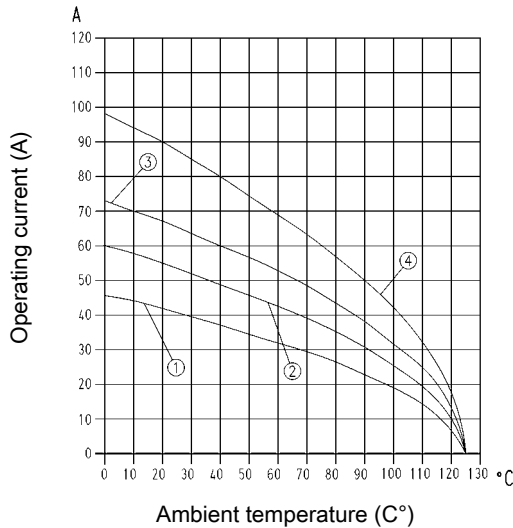
- High current rated compact designed connector
- Mating compatible to the crimp version
- Finger safe male and female contacts
- 16 coding options
- No special tools required for axial-screw termination
- For high voltages, please use heat shrink tube (included in delivery range)

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 2.5 mm²
- ② Wire cross section 4 mm²
- ③ Wire cross section 6 mm²
- ④ Wire cross section 10 mm²

Technical characteristics

Contacts	2/0
Electrical data acc. to IEC 61984	40 A 830 V 6 kV 3
Rated current	40 A
Rated voltage	830 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Tightening torque	1.8 Nm
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

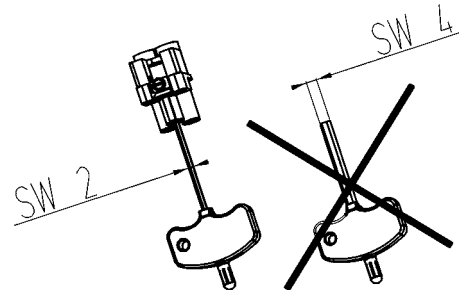
Specifications and approvals

IEC 60664-1
IEC 61984



Details

By using in Han® 3 A HPR hoods/housings the sealing on the insert has to be removed.




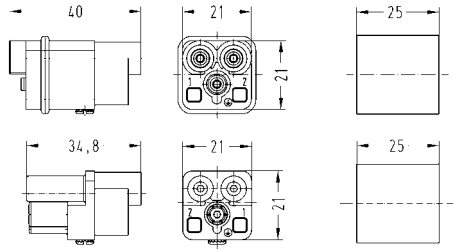

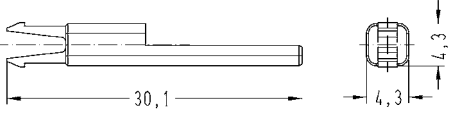
For termination please use only hexagonal screw driver with wrench size SW 2.

If PE contact is not used: Please screw the PE contact maximal on both sides clockwise with a hexagonal screwdriver, wrench size SW 2.

Number of contacts

2/0+

830 V
40 A

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p>Han® Q, Axial screw terminal, silver plated contacts</p> <p>Range of delivery: with heat shrink tube contact resistance ≤1 mOhm</p> 	<p>2.5-6 4-10</p>	<p>09 12 002 2654 09 12 002 2652</p>	<p>09 12 002 2754 09 12 002 2752</p>	 <p>Stripping length 8-9 mm</p>
<p>Coding element, plastic</p> 		<p>09 12 000 9922</p>	<p>09 12 000 9922</p>	

Features

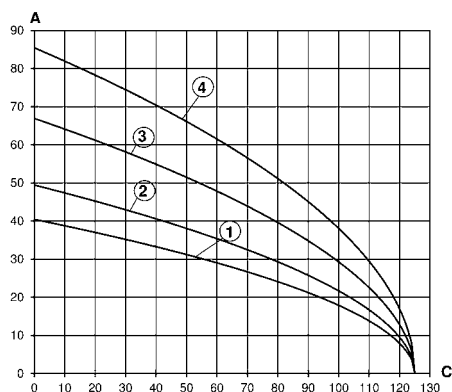
- High current rated compact designed connector
- 4 coding options
- Suitable for Han® C crimp contacts
- Finger safe male and female contacts
- Pre-mating PE crimp contact

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 2.5 mm²
- ② Wire cross section 4 mm²
- ③ Wire cross section 6 mm²
- ④ Wire cross section 10 mm²

Technical characteristics

Contacts	3/0
Electrical data acc. to IEC 61984	40 A 400 V 6 kV 3
Rated current	40 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

3/0+

400 V
40 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																		
		male	female																			
<p>Han® Q, Crimp terminal</p> <p>Please order crimp contacts separately.</p>		09 12 003 3051	09 12 003 3151																			
<p>Han® C, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm</p> <p>Coding element, plastic Range of delivery: 20 pieces per frame</p>	1.5 2.5 4 6 10	09 32 000 6104 09 32 000 6105 09 32 000 6107 09 32 000 6108 09 32 000 6109	09 32 000 6204 09 32 000 6205 09 32 000 6207 09 32 000 6208 09 32 000 6209	<table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>1.5 mm² AWG 16</td> <td>1.75</td> <td>9.5 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25</td> <td>9.5 mm</td> </tr> <tr> <td>4 mm² AWG 12</td> <td>2.85</td> <td>9.5 mm</td> </tr> <tr> <td>6 mm² AWG 10</td> <td>3.5</td> <td>9.5 mm</td> </tr> <tr> <td>10 mm² AWG 8</td> <td>4.3</td> <td>12 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	1.5 mm ² AWG 16	1.75	9.5 mm	2.5 mm ² AWG 14	2.25	9.5 mm	4 mm ² AWG 12	2.85	9.5 mm	6 mm ² AWG 10	3.5	9.5 mm	10 mm ² AWG 8	4.3	12 mm
Wire gauge	∅	Stripping length																				
1.5 mm ² AWG 16	1.75	9.5 mm																				
2.5 mm ² AWG 14	2.25	9.5 mm																				
4 mm ² AWG 12	2.85	9.5 mm																				
6 mm ² AWG 10	3.5	9.5 mm																				
10 mm ² AWG 8	4.3	12 mm																				
		09 12 000 9924	09 12 000 9924																			

Han Q

Features

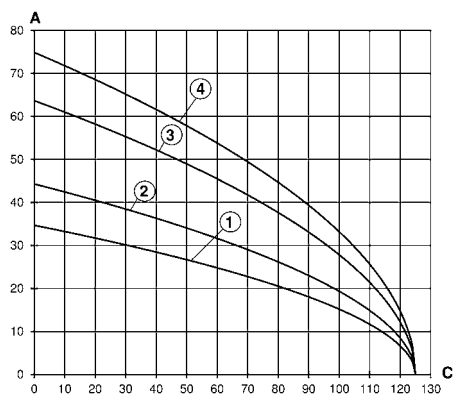
- High current rated compact designed connector
- 4 coding options
- Suitable for Han® C crimp contacts
- Finger safe male and female contacts

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 2.5 mm²
- ② Wire cross section 4 mm²
- ③ Wire cross section 6 mm²
- ④ Wire cross section 10 mm²

Technical characteristics

Contacts	4/0
Electrical data acc. to IEC 61984	40 A 830 V 8 kV 3
Rated current	40 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Attention! Only for thermoplastic hoods/housings!

Crimping tools see chapter 90


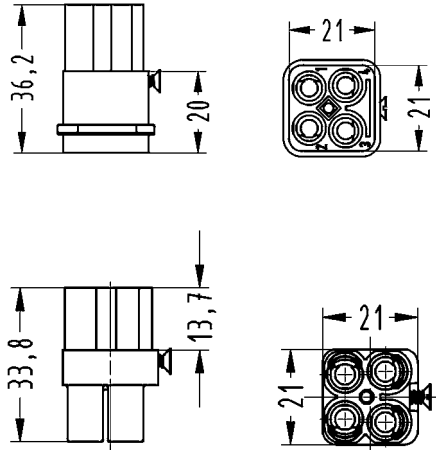


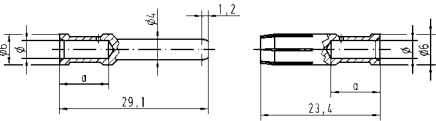
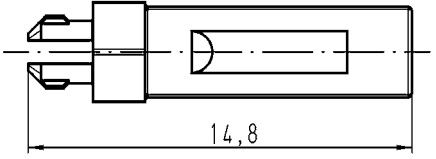
Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

4/0

830 V
40 A

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm																		
<p>Han® Q, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 12 004 3051	09 12 004 3151																			
<p>Han® C, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm</p>  <p>Coding element, plastic</p> <p>Range of delivery: 20 pieces per frame</p> 	1.5 2.5 4 6 10	09 32 000 6104 09 32 000 6105 09 32 000 6107 09 32 000 6108 09 32 000 6109	09 32 000 6204 09 32 000 6205 09 32 000 6207 09 32 000 6208 09 32 000 6209	 <table border="1" data-bbox="1037 1317 1497 1451"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>1.5 mm² AWG 16</td> <td>1.75</td> <td>9.5 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25</td> <td>9.5 mm</td> </tr> <tr> <td>4 mm² AWG 12</td> <td>2.85</td> <td>9.5 mm</td> </tr> <tr> <td>6 mm² AWG 10</td> <td>3.5</td> <td>9.5 mm</td> </tr> <tr> <td>10 mm² AWG 8</td> <td>4.3</td> <td>12 mm</td> </tr> </tbody> </table> 	Wire gauge	∅	Stripping length	1.5 mm ² AWG 16	1.75	9.5 mm	2.5 mm ² AWG 14	2.25	9.5 mm	4 mm ² AWG 12	2.85	9.5 mm	6 mm ² AWG 10	3.5	9.5 mm	10 mm ² AWG 8	4.3	12 mm
Wire gauge	∅	Stripping length																				
1.5 mm ² AWG 16	1.75	9.5 mm																				
2.5 mm ² AWG 14	2.25	9.5 mm																				
4 mm ² AWG 12	2.85	9.5 mm																				
6 mm ² AWG 10	3.5	9.5 mm																				
10 mm ² AWG 8	4.3	12 mm																				

Han Q

Features

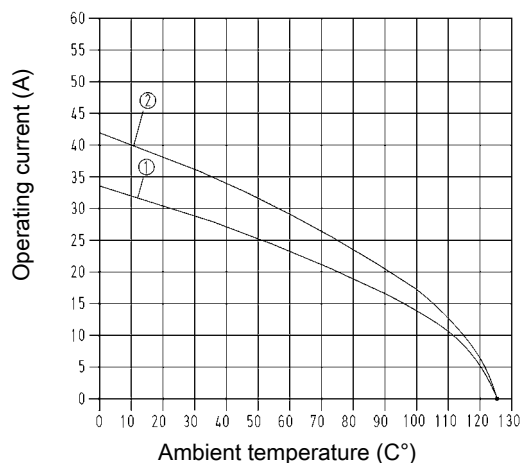
- Han® C power contacts
- Han D® signal contacts
- Finger safe male and female contacts
- Pre-mating PE crimp contact
- 3 coding options by using a coding pin instead of fixing screw
- Insert suitable for standard plastic hoods/housings and metal hoods/housings with additional PE contact of the size Han-Compact®
- Mating compatible to the axial screw version

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 2.5 mm²
 ② Wire cross section 4 mm²

Technical characteristics

Contacts	4/2
Electrical data acc. to IEC 61984	40 A 400/690 V 6 kV 3
Rated current	40 A
Rated voltage conductor - ground	400 V
Rated voltage conductor - conductor	690 V
Rated impulse voltage	6 kV
Pollution degree	3
Electrical data, signal	10 A 250 V 4 kV 3
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Rated voltage acc. to UL	600 V
Rated voltage acc. to UL, signal	250 V
Rated voltage acc. to CSA	600 V
Rated voltage acc. to CSA, signal	250 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
 IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

4/2+

400/690 V / 250 V
40 A/10 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																					
		male	female																						
Han® Q, Crimp terminal <p>Please order crimp contacts separately.</p>	1.5–6	09 12 006 3041	09 12 006 3141	<p>Contact arrangement (view from termination side)</p>																					
Han D®, Crimp contact, gold plated contacts, contact resistance ≤3 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5	09 15 000 6124 09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121 09 15 000 6126	09 15 000 6224 09 15 000 6223 09 15 000 6225 09 15 000 6222 09 15 000 6221 09 15 000 6226	<table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
Wire gauge	∅	Stripping length																							
0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																							
0.5 mm ² AWG 20	1.1 mm	8 mm																							
0.75 mm ² AWG 18	1.3 mm	8 mm																							
1 mm ² AWG 18	1.45 mm	8 mm																							
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							
Han D®, Crimp contact, silver plated contacts, contact resistance ≤3 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5	09 15 000 6104 09 15 000 6103 09 15 000 6105 09 15 000 6102 09 15 000 6101 09 15 000 6106	09 15 000 6204 09 15 000 6203 09 15 000 6205 09 15 000 6202 09 15 000 6201 09 15 000 6206	<table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
Wire gauge	∅	Stripping length																							
0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																							
0.5 mm ² AWG 20	1.1 mm	8 mm																							
0.75 mm ² AWG 18	1.3 mm	8 mm																							
1 mm ² AWG 18	1.45 mm	8 mm																							
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							
Han® C, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm 	1.5 2.5 4 6	09 32 000 6104 09 32 000 6105 09 32 000 6107 09 32 000 6108	09 32 000 6204 09 32 000 6205 09 32 000 6207 09 32 000 6208	<table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>1.5 mm² AWG 16</td> <td>1.75</td> <td>9.5 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25</td> <td>9.5 mm</td> </tr> <tr> <td>4 mm² AWG 12</td> <td>2.85</td> <td>9.5 mm</td> </tr> <tr> <td>6 mm² AWG 10</td> <td>3.5</td> <td>9.5 mm</td> </tr> <tr> <td>10 mm² AWG 8</td> <td>4.3</td> <td>12 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	1.5 mm ² AWG 16	1.75	9.5 mm	2.5 mm ² AWG 14	2.25	9.5 mm	4 mm ² AWG 12	2.85	9.5 mm	6 mm ² AWG 10	3.5	9.5 mm	10 mm ² AWG 8	4.3	12 mm			
Wire gauge	∅	Stripping length																							
1.5 mm ² AWG 16	1.75	9.5 mm																							
2.5 mm ² AWG 14	2.25	9.5 mm																							
4 mm ² AWG 12	2.85	9.5 mm																							
6 mm ² AWG 10	3.5	9.5 mm																							
10 mm ² AWG 8	4.3	12 mm																							

Han Q

Features

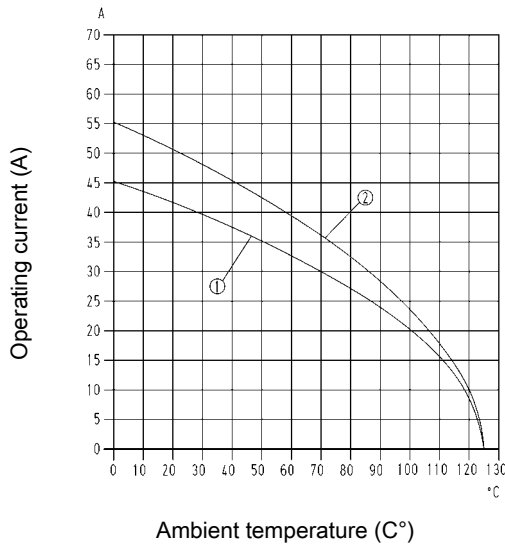
- Compact design saves space
- No special tools required
- Mating compatible to the crimp version
- Insert suitable for standard plastic hoods/housings and metal hoods/housings with additional PE contact of the size Han-Compact®
- With or without Han-Quick Lock® signal contacts

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 4 mm²
- ② Wire cross section 6 mm²

Technical characteristics

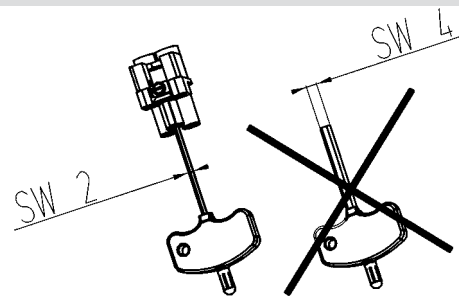
Contacts	4/2
Electrical data acc. to IEC 61984	40 A 400/690 V 6 kV 3
Rated current	40 A
Rated voltage conductor - ground	400 V
Rated voltage conductor - conductor	690 V
Rated impulse voltage	6 kV
Pollution degree	3
Electrical data, signal	10 A 250 V 4 kV 3
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Tightening torque	1.8 Nm
Degree of protection acc. to IEC 60529	IP65
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details



For termination please use only hexagonal screw driver with wrench size SW 2.
If PE contact is not used: Please screw the PE contact maximal on both sides clockwise with a hexagonal screwdriver, wrench size SW 2.



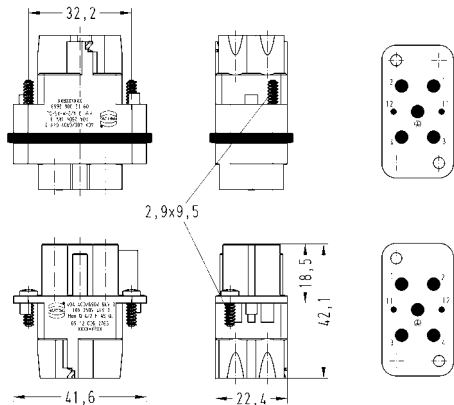


Number of contacts

4/2+

400/690 V / 250 V
40 A/10 A



Identification	Wire cross section (mm²)	Part number male female		Drawing Dimensions in mm
<p> Han-Quick Lock® Han® Q, Axial screw terminal, silver plated contacts, contact resistance ≤0.3 mOhm contact resistance, signal <3 mOhm</p>  <p>with Han-Quick Lock® signal contacts</p>	<p>2.5–6 4–10</p>	<p>09 12 006 2662 09 12 006 2663</p>	<p>09 12 006 2762 09 12 006 2763</p>	 <p>Stripping length Power contacts 8 mm Stripping length Signal contacts 10 mm</p>
<p>Han® Q, Axial screw terminal, silver plated contacts, contact resistance ≤0.3 mOhm without signal contacts</p>	<p>2.5–6 4–10</p>	<p>09 12 006 2665 09 12 006 2666</p>	<p>09 12 006 2765 09 12 006 2766</p>	

Han Q

Features

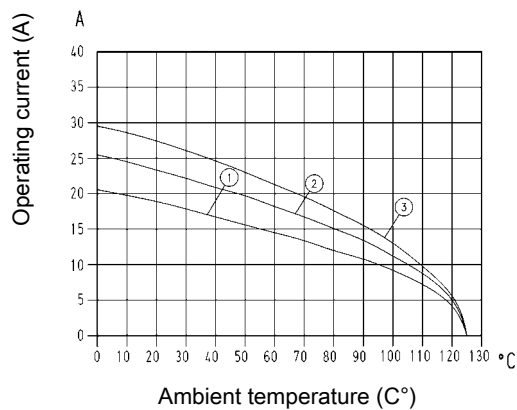
- Innovative Han-Quick Lock® termination technology with reduced wiring times
- No special tools required
- Mating compatible to the crimp version
- Vibration and shock resistant

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 1 mm²
- ② Wire cross section 1.5 mm²
- ③ Wire cross section 2.5 mm²

Technical characteristics

Contacts	5/0
Electrical data acc. to IEC 61984	blue slide 16 A 230/400 V 4 kV 3 black slide 16 A 230/400 V 4 kV 3
Rated current	16 A
Rated voltage conductor - ground	230 V
Rated voltage conductor - conductor	400 V
Rated impulse voltage	4 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Degree of protection acc. to IEC 60529	IP65 / IP67
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

By using in Han® 3 A HPR hoods/housings the sealing on the insert has to be removed.

Number of contacts

5/0+

230/400 V
16 A

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm
		male	female	
<p> Han-Quick Lock® Han® Q, Han-Quick Lock® termination, blue slide, silver plated contacts, contact resistance ≤1 mOhm</p>	0.5 – 2.5	09 12 005 2633	09 12 005 2733	<p>M</p> <p>F</p>
<p> Han-Quick Lock® Han® Q, Han-Quick Lock® termination, black slide, silver plated contacts, contact resistance ≤1 mOhm</p>	0.25 – 1.5	09 12 005 2634	09 12 005 2734	

Features

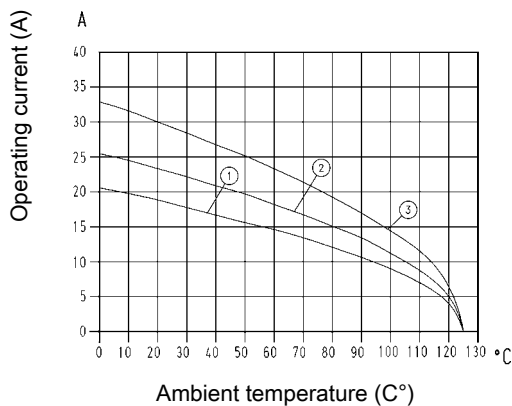
- Compact design saves space
- Suitable for Han E® crimp contacts
- Leading protective ground contact with screw terminal

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 1 mm²
- ② Wire cross section 1.5 mm²
- ③ Wire cross section 2.5 mm²

Technical characteristics

Contacts	5/0
Electrical data acc. to IEC 61984	16 A 230/400 V 4 kV 3
Rated current	16 A
Rated voltage conductor - ground	230 V
Rated voltage conductor - conductor	400 V
Rated impulse voltage	4 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Degree of protection acc. to IEC 60529	IP65 / IP67
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

By using in Han® 3 A HPR hoods/housings the sealing on the insert has to be removed.

Coding pin


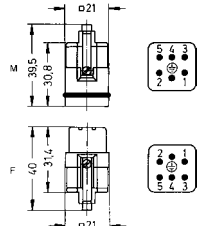

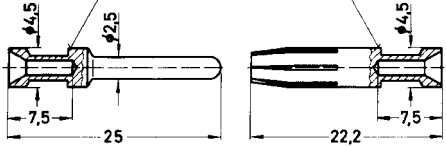
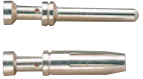
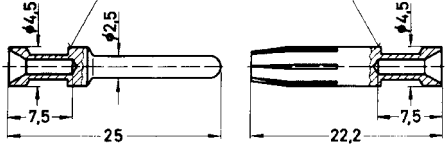

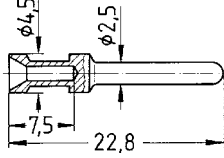

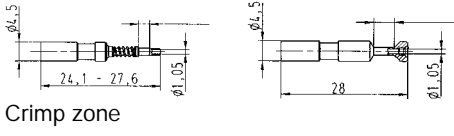
Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert.

Number of contacts

5/0+

230/400 V
16 A




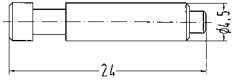
Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han® Q, Crimp terminal  <p>Please order crimp contacts separately.</p>		09 12 005 3001	09 12 005 3101	 <p>Contact arrangement (view from termination side)</p>
Han E®, Crimp contact, gold plated contacts, contact resistance ≤1 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5	09 33 000 6117 09 33 000 6122 09 33 000 6115 09 33 000 6118 09 33 000 6116 09 33 000 6123	09 33 000 6217 09 33 000 6222 09 33 000 6215 09 33 000 6218 09 33 000 6216 09 33 000 6223	
Han E®, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5	09 33 000 6127 09 33 000 6121 09 33 000 6114 09 33 000 6105 09 33 000 6104 09 33 000 6102	09 33 000 6227 09 33 000 6220 09 33 000 6214 09 33 000 6205 09 33 000 6204 09 33 000 6202	
Han E®, Relay contact, silver plated contacts, contact resistance ≤1 mOhm 	0.75–1 1.5 2.5	09 33 000 6109 09 33 000 6110 09 33 000 6111		 <p>Stripping length 7.5 mm</p>
Han E®, F.O. contact  <p>for 1 mm plastic fibre</p>		20 10 001 3311	20 10 001 3321	 <p>Crimp zone</p>

Identification	Wire gauge	Stripping length
no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm
no groove	0.5 mm ² AWG 20	7.5 mm
1 groove*	0.75 mm ² AWG 18	7.5 mm
1 groove	1 mm ² AWG 18	7.5 mm
2 grooves	1.5 mm ² AWG 16	7.5 mm
3 grooves	2.5 mm ² AWG 14	7.5 mm
wide groove	3 mm ² AWG 12	7.5 mm
no groove	4 mm ² AWG 12	7.5 mm

* on the back crimp collar

Han Q



Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han E® Han® EE, Han® EEE, Coding pin, plastic  for crimp inserts only			09 33 000 9954	

Han Q

Features

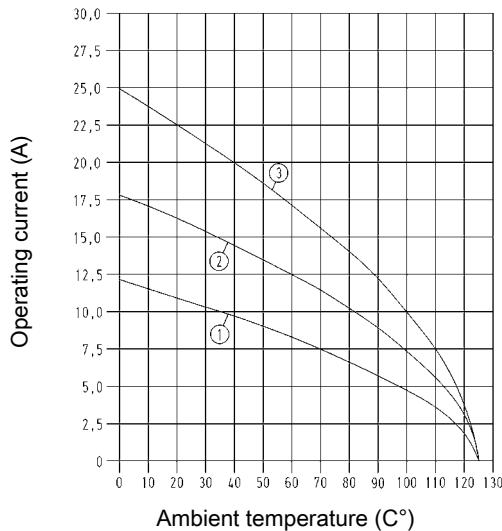
- Compact design saves space
- Suitable for Han D® crimp contacts
- Leading protective ground contact with screw terminal
- 6 coding options

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 0.75 mm²
- ② Wire cross section 1.5 mm²
- ③ Wire cross section 2.5 mm²

Technical characteristics

Contacts	7/0
Electrical data acc. to IEC 61984	10 A 400 V 6 kV 3
Rated current	10 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Degree of protection acc. to IEC 60529	IP65 / IP67
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique


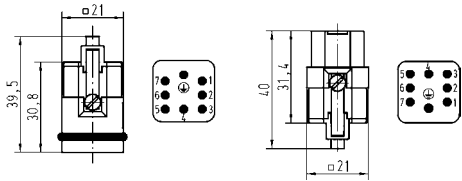

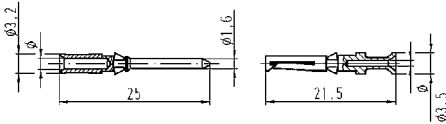

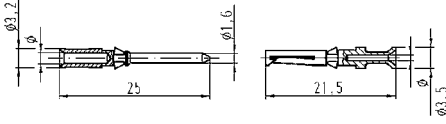

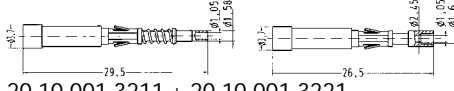

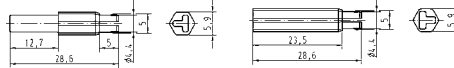
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

By using in Han® 3 A HPR hoods/housings the sealing on the insert has to be removed.

Number of contacts

7/0+

400 V
10 A

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm																					
		male	female																						
Han® Q, Crimp terminal  Please order crimp contacts separately.		09 12 007 3001	09 12 007 3101	 Contact arrangement (view from termination side)																					
Han D®, Crimp contact, gold plated contacts, contact resistance ≤3 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5	09 15 000 6124 09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121 09 15 000 6126	09 15 000 6224 09 15 000 6223 09 15 000 6225 09 15 000 6222 09 15 000 6221 09 15 000 6226	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm² AWG 26-22	0.9 mm	8 mm	0.5 mm² AWG 20	1.1 mm	8 mm	0.75 mm² AWG 18	1.3 mm	8 mm	1 mm² AWG 18	1.45 mm	8 mm	1.5 mm² AWG 16	1.75 mm	8 mm	2.5 mm² AWG 14	2.25 mm	6 mm
Wire gauge	∅	Stripping length																							
0.14-0.37 mm² AWG 26-22	0.9 mm	8 mm																							
0.5 mm² AWG 20	1.1 mm	8 mm																							
0.75 mm² AWG 18	1.3 mm	8 mm																							
1 mm² AWG 18	1.45 mm	8 mm																							
1.5 mm² AWG 16	1.75 mm	8 mm																							
2.5 mm² AWG 14	2.25 mm	6 mm																							
Han D®, Crimp contact, silver plated contacts, contact resistance ≤3 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5	09 15 000 6104 09 15 000 6103 09 15 000 6105 09 15 000 6102 09 15 000 6101 09 15 000 6106	09 15 000 6204 09 15 000 6203 09 15 000 6205 09 15 000 6202 09 15 000 6201 09 15 000 6206	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm² AWG 26-22	0.9 mm	8 mm	0.5 mm² AWG 20	1.1 mm	8 mm	0.75 mm² AWG 18	1.3 mm	8 mm	1 mm² AWG 18	1.45 mm	8 mm	1.5 mm² AWG 16	1.75 mm	8 mm	2.5 mm² AWG 14	2.25 mm	6 mm
Wire gauge	∅	Stripping length																							
0.14-0.37 mm² AWG 26-22	0.9 mm	8 mm																							
0.5 mm² AWG 20	1.1 mm	8 mm																							
0.75 mm² AWG 18	1.3 mm	8 mm																							
1 mm² AWG 18	1.45 mm	8 mm																							
1.5 mm² AWG 16	1.75 mm	8 mm																							
2.5 mm² AWG 14	2.25 mm	6 mm																							
F.O. contact for 1 mm plastic fibre 		20 10 001 3211	20 10 001 3221	 20 10 001 3211 + 20 10 001 3221																					
Coding element, plastic 		09 12 000 9901	09 12 000 9902																						

Han Q

Features

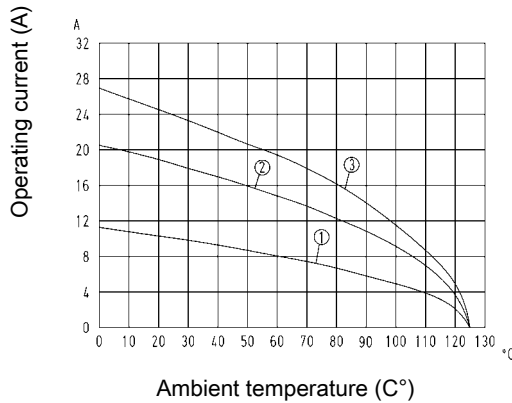
- Innovative Han-Quick Lock® termination technology with reduced wiring times
- No special tools required
- Mating compatible to the crimp version
- Insert suitable for standard plastic hoods/housings and metal hoods/housings with additional PE contact of the size Han-Compact®
- Pre-mating PE crimp contact

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 0.5 mm²
- ② Wire cross section 1.5 mm²
- ③ Wire cross section 2.5 mm²

Technical characteristics

Contacts	8/0
Electrical data acc. to IEC 61984	blue slide 16 A 500 V 6 kV 3 black slide 16 A 500 V 6 kV 3
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals


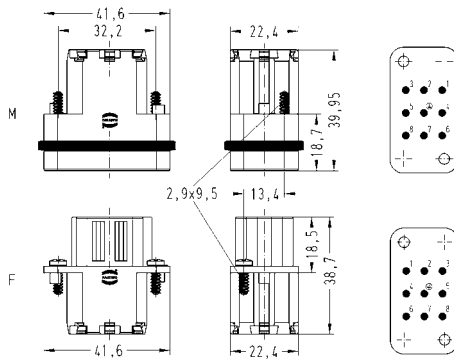
IEC 60664-1
IEC 61984



Number of contacts

8/0+

500 V
16 A

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p> Han-Quick Lock® Han® Q, Han-Quick Lock®, blue slide, silver plated contacts, contact resistance ≤3 mOhm</p> 	0.5 – 2.5	09 12 008 2633	09 12 008 2733	
<p> Han-Quick Lock® Han® Q, Han-Quick Lock®, black slide, silver plated contacts, contact resistance ≤3 mOhm</p>	0.25 – 1.5	09 12 008 2634	09 12 008 2734	

Han Q

Features

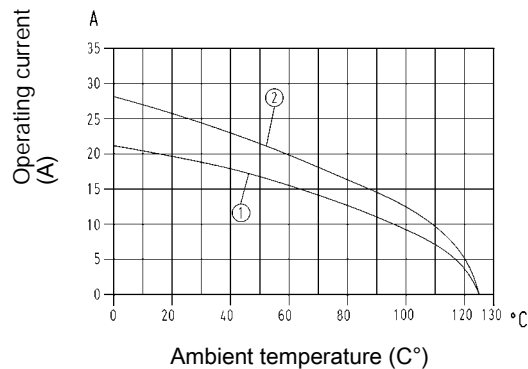
- Compact design saves space
- Suitable for Han E® crimp contacts
- Pre-mating PE crimp contact
- ISO 23570 / DESINA conform product

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 1.5 mm²
- ② Wire cross section 2.5 mm²

Technical characteristics

Contacts	8/0
Electrical data acc. to IEC 61984	16 A 500 V 6 kV 3
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.


Coding pin

Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert.




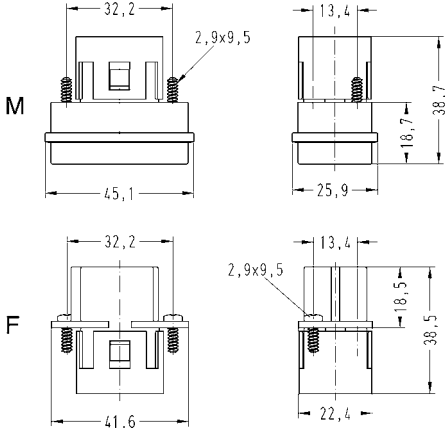
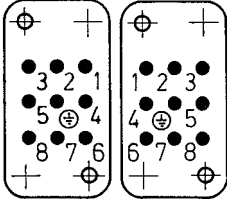

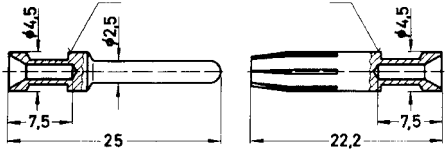
Number of contacts

8/0+


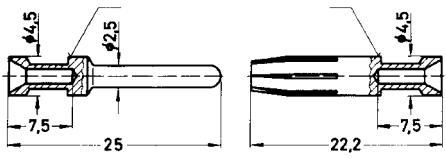

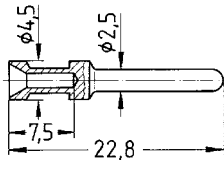

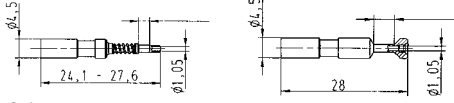

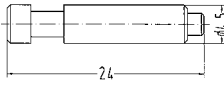


500 V
16 A



Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm																											
		male	female																												
<p>Han® Q, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 12 008 3001	09 12 008 3101	  <p>Contact arrangement (view from termination side)</p>																											
<p>Han E®, Crimp contact, gold plated contacts, contact resistance ≤1 mOhm</p> 	0.14–0.37 0.5 0.75 1 1.5 2.5 4	09 33 000 6117 09 33 000 6122 09 33 000 6115 09 33 000 6118 09 33 000 6116 09 33 000 6123 09 33 000 6119	09 33 000 6217 09 33 000 6222 09 33 000 6215 09 33 000 6218 09 33 000 6216 09 33 000 6223 09 33 000 6221	 <table border="1" data-bbox="1007 1592 1465 1809"> <thead> <tr> <th>Identification</th> <th>Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>no groove</td> <td>0.14-0.37 mm² AWG 26-22</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>0.5 mm² AWG 20</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove*</td> <td>0.75 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove</td> <td>1 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>2 grooves</td> <td>1.5 mm² AWG 16</td> <td>7.5 mm</td> </tr> <tr> <td>3 grooves</td> <td>2.5 mm² AWG 14</td> <td>7.5 mm</td> </tr> <tr> <td>wide groove</td> <td>3 mm² AWG 12</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>4 mm² AWG 12</td> <td>7.5 mm</td> </tr> </tbody> </table> <p>* on the back crimp collar</p>	Identification	Wire gauge	Stripping length	no groove	0.14-0.37 mm² AWG 26-22	7.5 mm	no groove	0.5 mm² AWG 20	7.5 mm	1 groove*	0.75 mm² AWG 18	7.5 mm	1 groove	1 mm² AWG 18	7.5 mm	2 grooves	1.5 mm² AWG 16	7.5 mm	3 grooves	2.5 mm² AWG 14	7.5 mm	wide groove	3 mm² AWG 12	7.5 mm	no groove	4 mm² AWG 12	7.5 mm
Identification	Wire gauge	Stripping length																													
no groove	0.14-0.37 mm² AWG 26-22	7.5 mm																													
no groove	0.5 mm² AWG 20	7.5 mm																													
1 groove*	0.75 mm² AWG 18	7.5 mm																													
1 groove	1 mm² AWG 18	7.5 mm																													
2 grooves	1.5 mm² AWG 16	7.5 mm																													
3 grooves	2.5 mm² AWG 14	7.5 mm																													
wide groove	3 mm² AWG 12	7.5 mm																													
no groove	4 mm² AWG 12	7.5 mm																													

Han Q

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																											
		male	female																												
Han E®, Crimp contact, silver plated contacts, contact resistance ≤1 mOhm 	0.14–0.37	09 33 000 6127	09 33 000 6227	 <table border="1" data-bbox="1037 526 1492 739"> <thead> <tr> <th>Identification</th> <th>Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>no groove</td> <td>0.14-0.37 mm² AWG 26-22</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>0.5 mm² AWG 20</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove*</td> <td>0.75 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove</td> <td>1 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>2 grooves</td> <td>1.5 mm² AWG 16</td> <td>7.5 mm</td> </tr> <tr> <td>3 grooves</td> <td>2.5 mm² AWG 14</td> <td>7.5 mm</td> </tr> <tr> <td>wide groove</td> <td>3 mm² AWG 12</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>4 mm² AWG 12</td> <td>7.5 mm</td> </tr> </tbody> </table> <small>* on the back crimp collar</small>	Identification	Wire gauge	Stripping length	no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm	no groove	0.5 mm ² AWG 20	7.5 mm	1 groove*	0.75 mm ² AWG 18	7.5 mm	1 groove	1 mm ² AWG 18	7.5 mm	2 grooves	1.5 mm ² AWG 16	7.5 mm	3 grooves	2.5 mm ² AWG 14	7.5 mm	wide groove	3 mm ² AWG 12	7.5 mm	no groove	4 mm ² AWG 12	7.5 mm
	Identification	Wire gauge	Stripping length																												
	no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm																												
	no groove	0.5 mm ² AWG 20	7.5 mm																												
	1 groove*	0.75 mm ² AWG 18	7.5 mm																												
	1 groove	1 mm ² AWG 18	7.5 mm																												
	2 grooves	1.5 mm ² AWG 16	7.5 mm																												
3 grooves	2.5 mm ² AWG 14	7.5 mm																													
wide groove	3 mm ² AWG 12	7.5 mm																													
no groove	4 mm ² AWG 12	7.5 mm																													
0.5	09 33 000 6121	09 33 000 6220																													
0.75	09 33 000 6114	09 33 000 6214																													
1	09 33 000 6105	09 33 000 6205																													
1.5	09 33 000 6104	09 33 000 6204																													
2.5	09 33 000 6102	09 33 000 6202																													
4	09 33 000 6107	09 33 000 6207																													
Han E®, Relay contact, silver plated contacts, contact resistance ≤1 mOhm 	0.75–1	09 33 000 6109		 Stripping length 7.5 mm																											
	1.5	09 33 000 6110																													
	2.5	09 33 000 6111																													
Han E®, F.O. contact  for 1 mm plastic fibre		20 10 001 3311	20 10 001 3321	 Crimp zone																											
Han E®, Han® EE, Han® EEE, Coding pin, plastic  for crimp inserts only			09 33 000 9954																												

Features

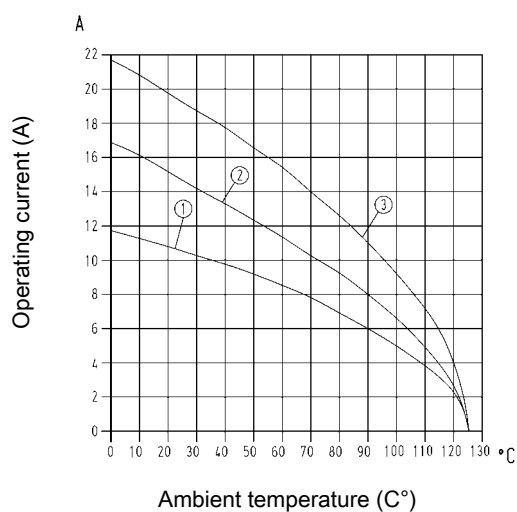
- Suitable for Han D® crimp contacts
- PE contact with Han-Quick Lock® termination technology
- 16 coding options without loss of contacts

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 0.75 mm²
- ② Wire cross section 1.5 mm²
- ③ Wire cross section 2.5 mm²

Technical characteristics

Contacts	12/0
Electrical data acc. to IEC 61984	blue slide 10 A 400 V 6 kV 3 black slide 10 A 400 V 6 kV 3
Rated current	10 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

By using in Han® 3 A HPR hoods/housings the sealing on the insert has to be removed.

Number of contacts

12/0+

400 V
10 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																					
		male	female																						
<p> Han-Quick Lock® Han® Q, Crimp termination/Han-Quick Lock®, blue slide</p> <p>Please order crimp contacts separately.</p>		09 12 012 3001	09 12 012 3101	<p>M</p> <p>F</p> <p>PE contact : Wire cross section blue slide 0.5 ... 2.5 PE contact : Wire cross section black slide 0.25 ... 1.5</p>																					
<p> Han-Quick Lock® Han® Q, Crimp termination/Han-Quick Lock®, black slide</p> <p>Please order crimp contacts separately.</p>		09 12 012 3004	09 12 012 3104																						
<p>Han D®, Crimp contact, gold plated contacts, contact resistance ≤3 mOhm</p>	<p>0.14–0.37 0.5 0.75 1 1.5 2.5</p>	<p>09 15 000 6124 09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121 09 15 000 6126</p>	<p>09 15 000 6224 09 15 000 6223 09 15 000 6225 09 15 000 6222 09 15 000 6221 09 15 000 6226</p>	<table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
Wire gauge	∅	Stripping length																							
0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																							
0.5 mm ² AWG 20	1.1 mm	8 mm																							
0.75 mm ² AWG 18	1.3 mm	8 mm																							
1 mm ² AWG 18	1.45 mm	8 mm																							
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							

Features

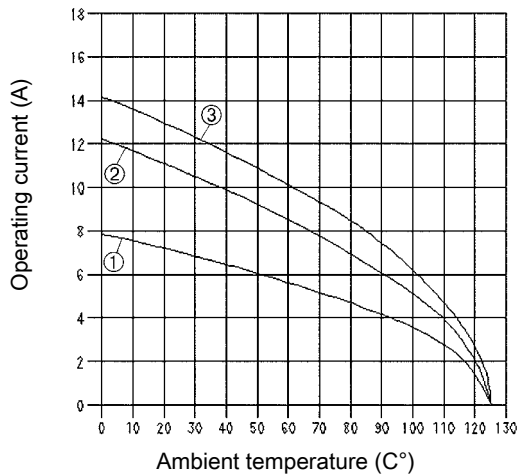
- Compact design saves space
- Suitable for Han D® crimp contacts
- Pre-mating PE crimp contact
- 3 coding options by using a coding pin instead of fixing screw

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 0.5 mm²
- ② Wire cross section 1 mm²
- ③ Wire cross section 1.5 mm²

Technical characteristics

Contacts	17/0
Electrical data acc. to IEC 61984	10 A 160 V 2.5 kV 3
Rated current	10 A
Rated voltage	160 V
Rated impulse voltage	2.5 kV
Pollution degree	3
Rated voltage acc. to UL	250 V
Rated voltage acc. to CSA	250 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique


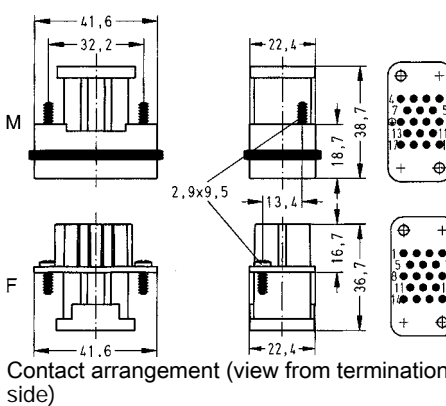

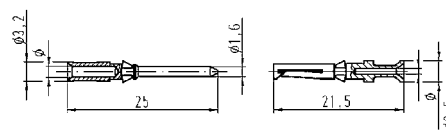

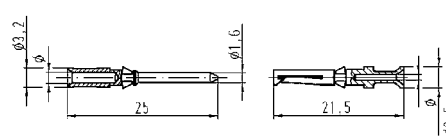

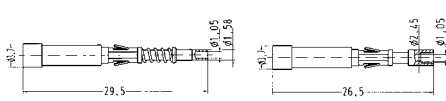
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.



Number of contacts

17/0+

160 V
10 A

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm																					
		male	female																						
Han® Q, Crimp terminal  Please order crimp contacts separately.		09 12 017 3001	09 12 017 3101	 <p>41,6 32,2 22,4 18,7 38,7 2,9x9,5 13,4 16,7 36,7 41,6 22,4</p> <p>Contact arrangement (view from termination side)</p>																					
Han D®, Crimp contact, gold plated contacts, contact resistance ≤3 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5	09 15 000 6124 09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121 09 15 000 6126	09 15 000 6224 09 15 000 6223 09 15 000 6225 09 15 000 6222 09 15 000 6221 09 15 000 6226	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm² AWG 26-22	0.9 mm	8 mm	0.5 mm² AWG 20	1.1 mm	8 mm	0.75 mm² AWG 18	1.3 mm	8 mm	1 mm² AWG 18	1.45 mm	8 mm	1.5 mm² AWG 16	1.75 mm	8 mm	2.5 mm² AWG 14	2.25 mm	6 mm
Wire gauge	∅	Stripping length																							
0.14-0.37 mm² AWG 26-22	0.9 mm	8 mm																							
0.5 mm² AWG 20	1.1 mm	8 mm																							
0.75 mm² AWG 18	1.3 mm	8 mm																							
1 mm² AWG 18	1.45 mm	8 mm																							
1.5 mm² AWG 16	1.75 mm	8 mm																							
2.5 mm² AWG 14	2.25 mm	6 mm																							
Han D®, Crimp contact, silver plated contacts, contact resistance ≤3 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5	09 15 000 6104 09 15 000 6103 09 15 000 6105 09 15 000 6102 09 15 000 6101 09 15 000 6106	09 15 000 6204 09 15 000 6203 09 15 000 6205 09 15 000 6202 09 15 000 6201 09 15 000 6206	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm² AWG 26-22	0.9 mm	8 mm	0.5 mm² AWG 20	1.1 mm	8 mm	0.75 mm² AWG 18	1.3 mm	8 mm	1 mm² AWG 18	1.45 mm	8 mm	1.5 mm² AWG 16	1.75 mm	8 mm	2.5 mm² AWG 14	2.25 mm	6 mm
Wire gauge	∅	Stripping length																							
0.14-0.37 mm² AWG 26-22	0.9 mm	8 mm																							
0.5 mm² AWG 20	1.1 mm	8 mm																							
0.75 mm² AWG 18	1.3 mm	8 mm																							
1 mm² AWG 18	1.45 mm	8 mm																							
1.5 mm² AWG 16	1.75 mm	8 mm																							
2.5 mm² AWG 14	2.25 mm	6 mm																							
F.O. contact  for 1 mm plastic fibre		20 10 001 3211	20 10 001 3221	 <p>20 10 001 3211 + 20 10 001 3221</p>																					

Features

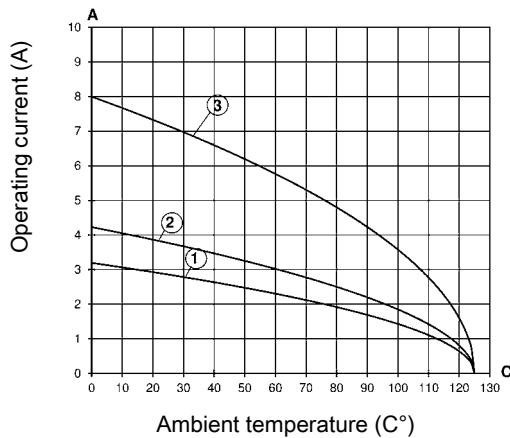
- Easy handling of signal connectors in industrial environment
- High density of contacts
- Suitable for D-Sub crimp contacts
- One preleading contact

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Stamped contacts: Wire cross section 0.14 mm²
- ② Stamped contacts: Wire cross section 0.25 mm²
- ③ Turned contacts: Wire cross section 0.5 mm²

Technical characteristics

Contacts	21
Electrical data acc. to IEC 61984	6.5 A 50 V 0.8 kV 3
Rated current	6.5 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Rated voltage AC	50 V
Rated voltage DC	120 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90


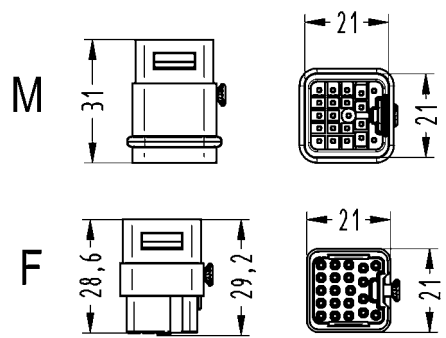


Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

21

~ 50 V
 - 120 V
 50 V
 6.5 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm												
		male	female													
Han® Q, Crimp terminal  <p>Please order crimp contacts separately.</p>		09 12 021 3001	09 12 021 3101													
Han® Q Han® D-Sub crimp contact, turned contacts 	0.09–0.25 0.13–0.33 0.25–0.52	09 67 000 7576 09 67 000 5576 09 67 000 8576	09 67 000 7476 09 67 000 5476 09 67 000 8476	<table border="1"> <thead> <tr> <th>Wire gauge</th> <th>max. insulation diameter</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.09-0.25 mm²</td> <td>1.7</td> <td>4 mm</td> </tr> <tr> <td>0.13-0.33 mm²</td> <td>1.7</td> <td>4 mm</td> </tr> <tr> <td>0.25-0.52 mm²</td> <td>1.7</td> <td>4 mm</td> </tr> </tbody> </table>	Wire gauge	max. insulation diameter	Stripping length	0.09-0.25 mm ²	1.7	4 mm	0.13-0.33 mm ²	1.7	4 mm	0.25-0.52 mm ²	1.7	4 mm
Wire gauge	max. insulation diameter	Stripping length														
0.09-0.25 mm ²	1.7	4 mm														
0.13-0.33 mm ²	1.7	4 mm														
0.25-0.52 mm ²	1.7	4 mm														
Han® D-Sub crimp contact, stamped contacts 	0.09–0.25 0.25–0.56	09 67 000 7176 09 67 000 8176	09 67 000 7276 09 67 000 8276	<table border="1"> <thead> <tr> <th>Wire gauge</th> <th>max. insulation diameter</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.09-0.25 mm²</td> <td>1.02</td> <td>2.5 mm + 0.5</td> </tr> <tr> <td>0.25-0.52 mm²</td> <td>1.52</td> <td>2.5 mm + 0.5</td> </tr> </tbody> </table>	Wire gauge	max. insulation diameter	Stripping length	0.09-0.25 mm ²	1.02	2.5 mm + 0.5	0.25-0.52 mm ²	1.52	2.5 mm + 0.5			
Wire gauge	max. insulation diameter	Stripping length														
0.09-0.25 mm ²	1.02	2.5 mm + 0.5														
0.25-0.52 mm ²	1.52	2.5 mm + 0.5														

Features

- Combination connector: Ethernet connector based on RJ45 with up to 10 signal D-Sub contacts, crimp termination
- Turned D-Sub contacts of performance level 1
- Compact design saves space
- High density of contacts

Technical characteristics

Contacts	8
Electrical data, signal	5 A 50 V 0.8 kV 3
Rated current	5 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Insulation resistance	$\geq 10^{10}$ Ohm
Limiting temperatures	-40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥ 500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals

IEC 60664-1
IEC 61984

Number of contacts

8

50 V
5 A

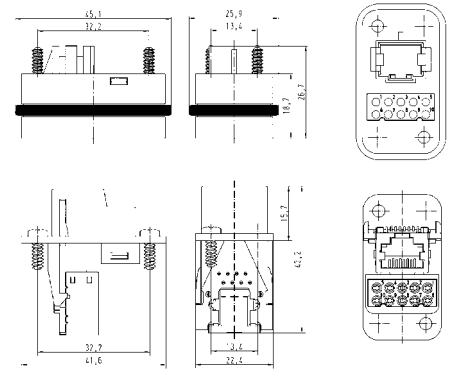
Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	

Han® Q,
RJ45 acc. to IEC 60603-7,
Han® Q Data RJ45,
Cat. 5e



Please order crimp contacts separately.

09 12 011 3001	09 12 011 3111
----------------	----------------



Han Q

Han® D-Sub crimp contact,
turned contacts



0.13 – 0.33 0.25 – 0.52	09 67 000 5576 09 67 000 8576	09 67 000 5476 09 67 000 8476
----------------------------	----------------------------------	----------------------------------

Wire gauge	max. insulation diameter	Stripping length
0.09-0.25 mm ²	1.7	4 mm
0.13-0.33 mm ²	1.7	4 mm
0.25-0.52 mm ²	1.7	4 mm

Features

- Plastic hoods/housings for industrial applications
- Compact design saves space

Technical characteristics


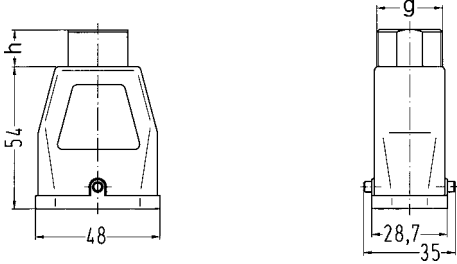

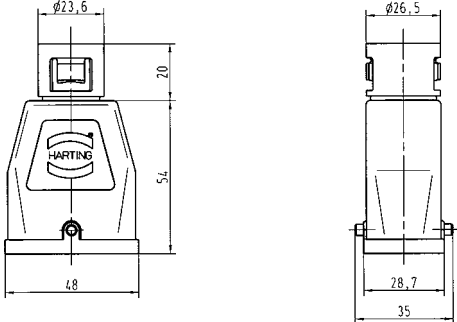

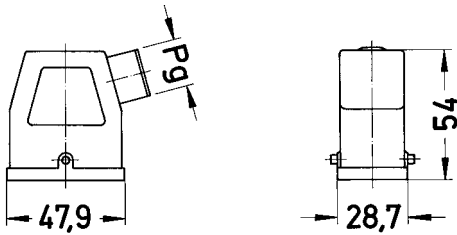

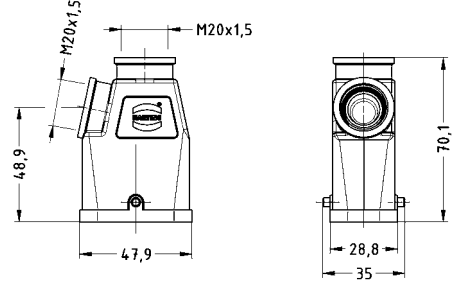
Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Flammability (locking lever) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP65 / IP67, IP65, IP67
Material (hoods/housings)	polycarbonate, thermoplastic
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	polyamide
Colour (locking lever)	RAL 9005 (black)
Material (seal)	NBR


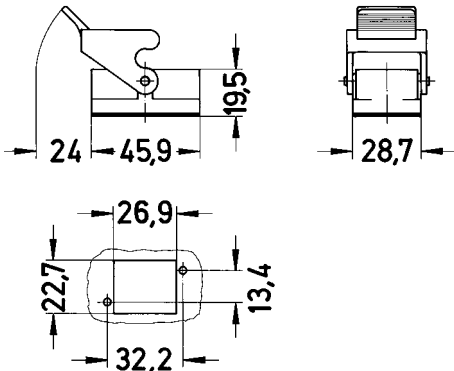

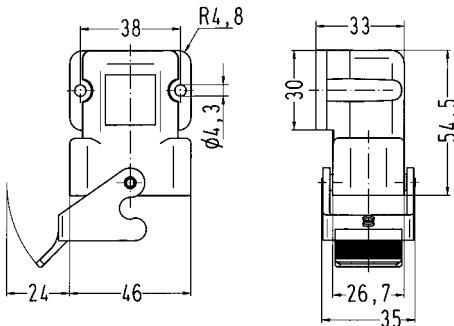

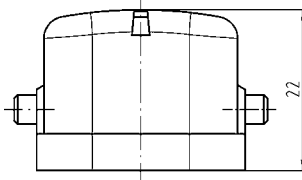

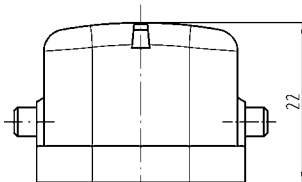
Specifications and approvals






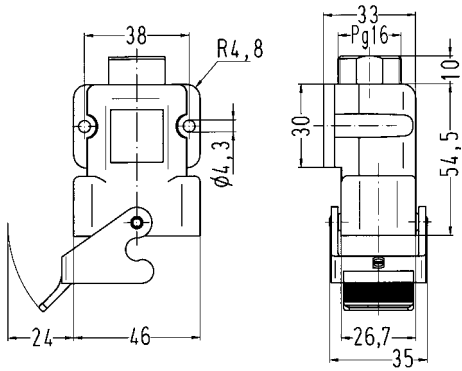

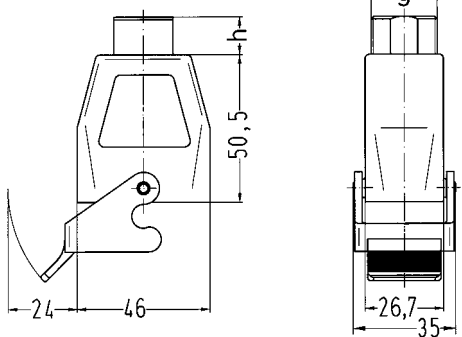

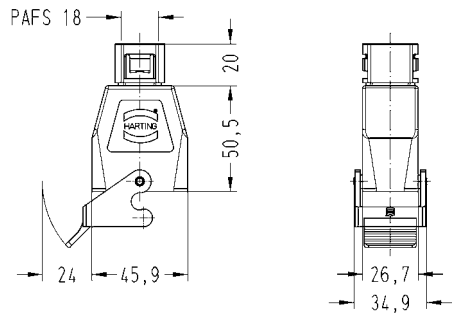
Plastic hoods/housings for industrial applications
double locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han-Compact®, Hoods, top entry, for Han-Compact® half cable gland 	1xM25 1xPg 16 1xPg 21		19 12 008 0429 09 12 008 0427 09 12 008 0429		
Han-Compact®, Hoods, top entry, for flexible conduits Adaptaflex PAFS18 Han Q 	1xPAFS 18		09 12 008 0428		
Han-Compact®, Hoods, side entry, for Han-Compact® half cable gland 	1xPg 16		09 12 008 0527		
Han-Compact®, Hoods, top/side entry, for Han-Compact® half cable gland 	2xM20		19 12 008 0425		

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han-Compact®, Bulkhead mounted housings, straight version 		09 12 008 0327		
Han-Compact®, Bulkhead mounted housings, side entry 		09 12 008 0902		
Han-Compact®, Protection cover for bulkhead mounted housings, plastic for mounted male insert 		09 12 008 5407		
Han-Compact®, Protection cover for bulkhead mounted housings, plastic for mounted female insert 		09 12 008 5408		

Han Q



Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han-Compact®, Surface mounted housings, for Han-Compact® half cable gland 	1xPg 16	09 12 008 0901		
Han-Compact®, Cable to cable housings, top entry, for Han-Compact® half cable gland 	1xM25 1xPg 16		19 12 008 0729 09 12 008 0727	
Han-Compact®, Cable to cable housings, top entry, for flexible conduits Adaptaflex PAFS18 	1xPAFS 18		09 12 008 0728	

Han Q

Features

- Metal hoods/housings for industrial applications
- Large space for cables
- Visible cabling
- Separate PE termination possible

Technical characteristics


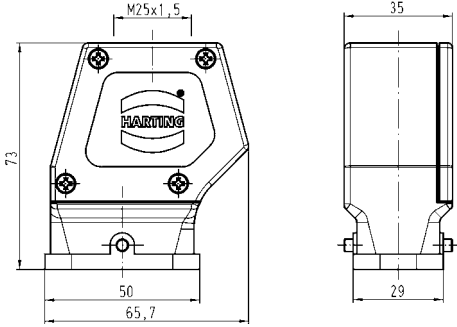

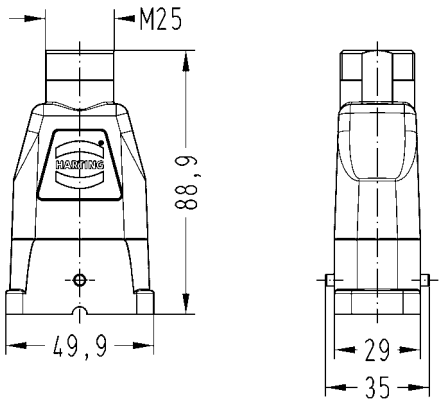

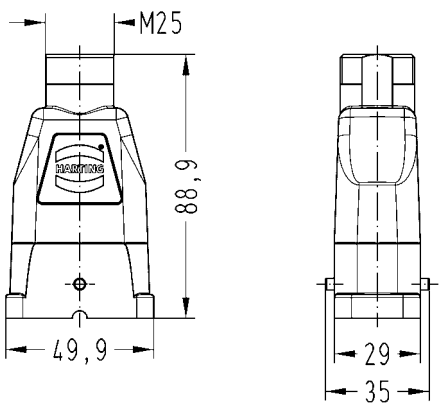
Limiting temperatures	-40 °C ... 125 °C
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	zinc die-cast
Surface (hoods/housings)	chromated, powder-coated
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	stainless steel
Material (seal)	NBR

Specifications and approvals


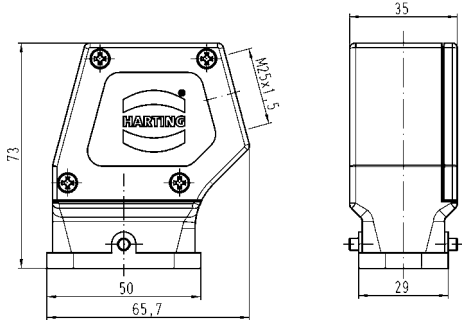

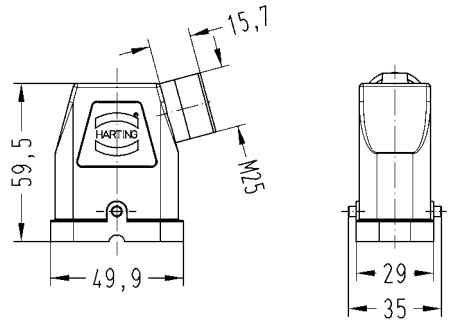

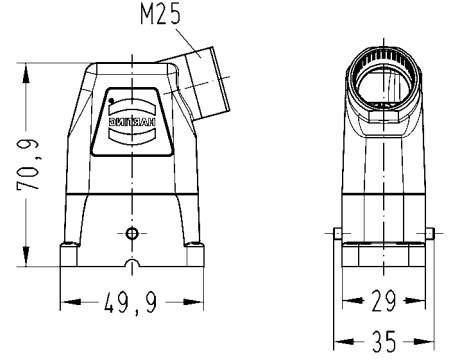

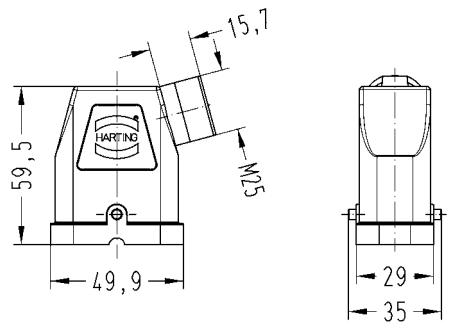




Metal hoods/housings for industrial applications
double locking lever


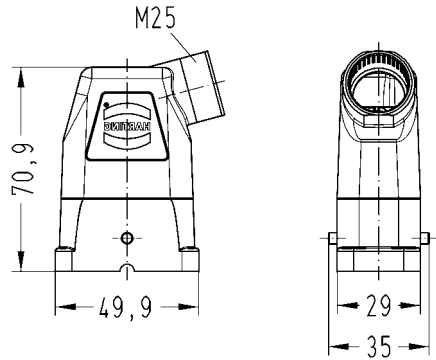

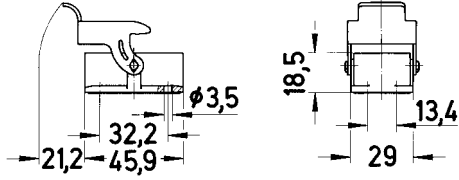

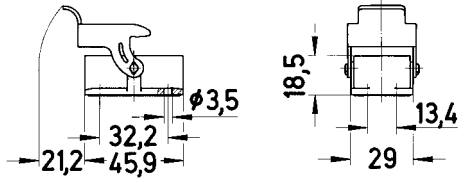
Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han-Compact®, Hoods, powder-coated, top entry, for standard cable gland, including separate PE contact  for all inserts of size Han-Compact®	1xM25		19 12 008 0426		
Han-Compact®, Hoods, chromated, top entry, for Han-Compact® half cable gland, including separate PE contact  for all inserts of size Han-Compact®	1xM25		19 12 008 0411		
Han-Compact®, Hoods, powder-coated, top entry, for Han-Compact® half cable gland, including separate PE contact  for all inserts of size Han-Compact®	1xM25		19 12 708 0411		

Han Q

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
<p>Han-Compact®, Hoods, powder-coated, side entry, for standard cable gland, including separate PE contact</p>  <p>for all inserts of size Han-Compact®</p>	1xM25		19 12 008 0526		
<p>Han-Compact®, Hoods, chromated, side entry, for Han-Compact® half cable gland</p>  <p>for Han® Q 8/0 Crimp, Han® Q 17/0 and Han® Q Data RJ45</p>	1xM25		19 12 008 0501		
<p>Han-Compact®, Hoods, chromated, side entry, for Han-Compact® half cable gland, including separate PE contact</p>  <p>for all inserts of size Han-Compact®</p>	1xM25		19 12 008 0511		
<p>Han-Compact®, Hoods, powder-coated, side entry, for Han-Compact® half cable gland</p>  <p>for Han® Q 8/0 Crimp, Han® Q 17/0 and Han® Q Data RJ45</p>	1xM25		19 12 708 0501		

Han Q



Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han-Compact®, Hoods, powder-coated, side entry, for Han-Compact® half cable gland, including separate PE contact 	1xM25		19 12 708 0511		
for all inserts of size Han-Com- pact®					
Han-Compact®, Bulkhead mounted housings, chromated 		09 12 008 0301			
Han-Compact®, Bulkhead mounted housings, powder-coated 		09 12 708 0301			

Han Q

Features

- Hoods/Housings for higher EMC requirements
- Separate PE termination possible
- High degree of flexibility due to two-part assembly

Technical characteristics


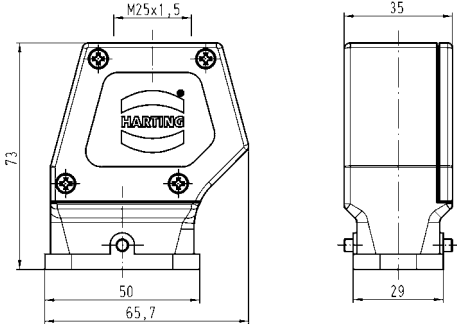

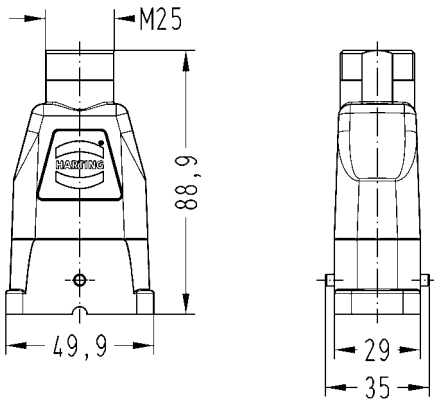

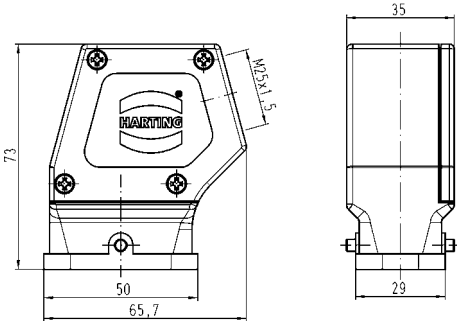
Limiting temperatures	-40 °C ... 125 °C
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	zinc die-cast
Surface (hoods/housings)	nickel plated
Material (locking lever)	stainless steel
Material (seal)	NBR

Specifications and approvals




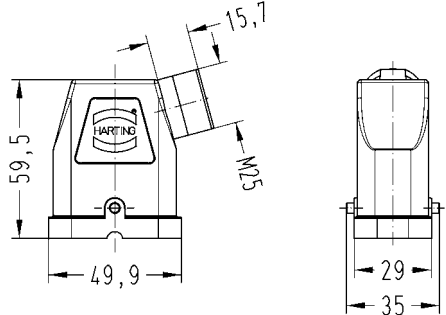

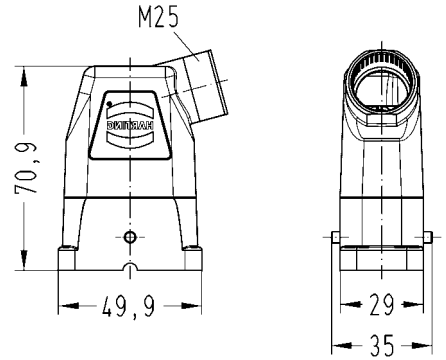

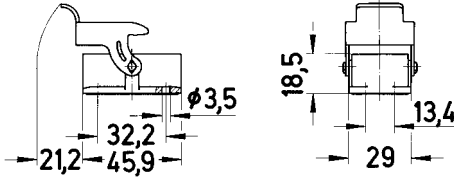


Hoods/Housings for higher EMC requirements
double locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han-Compact®, Hoods, top entry, for standard cable gland, including separate PE contact  for all inserts of size Han-Compact®	1xM25		19 12 008 0428		
Han-Compact®, Hoods, top entry, for Han-Compact® half cable gland, including separate PE contact  for all inserts of size Han-Compact®	1xM25		19 12 008 0412		
Han-Compact®, Hoods, side entry, for standard cable gland, including separate PE contact  for all inserts of size Han-Compact®	1xM25		19 12 008 0528		

Han Q



Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han-Compact®, Hoods, side entry, for Han-Compact® half cable gland  for Han® Q 8/0 Crimp, Han® Q 17/0 and Han® Q Data RJ45	1xM25		19 12 008 0502	
Han-Compact®, Hoods, side entry, for Han-Compact® half cable gland, including separate PE contact  for all inserts of size Han-Com- pact®	1xM25		19 12 008 0512	
Han-Compact®, Bulkhead mounted housings 		09 12 008 0303		


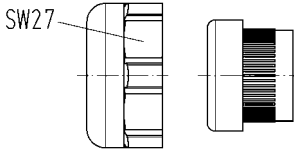

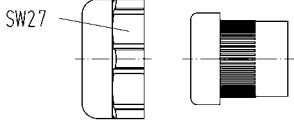

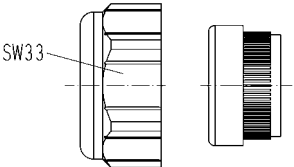
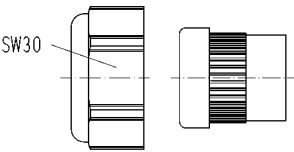
Han Q

Technical characteristics

Technical characteristics

Colour (accessories) black


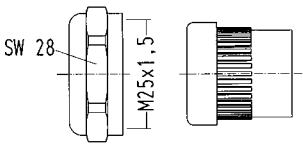

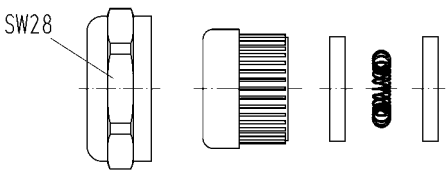
Material (screwing) thermoplastic

Identification	Clamping range (mm)	Size	Part number	Drawing Dimensions in mm
Han-Compact®, Half gland, for surface mounted housings 	6.5 ... 9.5 11.5 ... 15.5	Pg 16 Pg 16	09 00 000 5057 09 00 000 5058	
Han-Compact®, Half gland, for cable to cable housings 	6.5 ... 9.5 11.5 ... 15.5 9 ... 13 14 ... 18 17 ... 20.5	Pg 16 Pg 16 Pg 21 Pg 21	09 00 000 5047 09 00 000 5059 09 00 000 5156 09 00 000 5157 09 00 000 5158	
Han-Compact®, Half gland, for hoods, for cable to cable housings, black 	6.5 ... 9.5 10.5 ... 14 14 ... 17	M25 M25 M25	19 12 000 5156 19 12 000 5157 19 12 000 5158	 <p>09 00 000 5157 + 09 00 000 5158</p> 

Han Q

Technical characteristics

Material (screwing) metal

Identification	Clamping range (mm)	Size	Part number	Drawing Dimensions in mm
Han-Compact®, Half gland, for hoods, metal 	14 ... 17	M25	19 12 000 5058	
	10.5 ... 14	M25	19 12 000 5057	
Han-Compact®, EMC clamp, for hoods 	10.5 ... 14	M25	19 62 000 5056	
	10.5 ... 14	M25	19 62 000 5057	
	14 ... 17	M25	19 62 000 5058	

	19 62 000 5056	19 62 000 5057	19 62 000 5058
19 62 000 5056	10.5 ... 14mm	9 ... 13 mm	28
19 62 000 5057	10.5 ... 14mm	6 ... 11 mm	28
19 62 000 5058	14 ... 17 mm	9 ... 13 mm	28

Han Q

Technical characteristics

Material (accessories) NBR, plastic

Technical characteristics

Colour (accessories) black

Identification

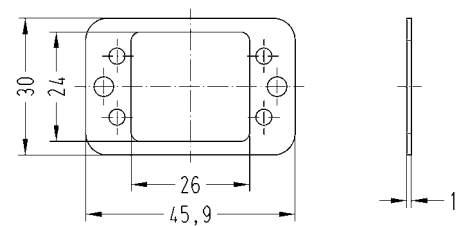
Part number

Drawing Dimensions in mm

Han-Compact®,
Flange gasket,
for bulkhead mounted plastic housings, angled,
for surface mounted housings



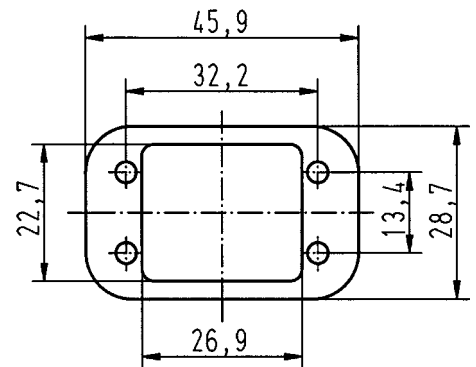
09 12 000 9911



Han-Compact®,
Flange gasket,
for bulkhead mounted plastic housings, straight



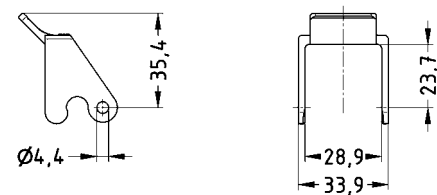
09 12 000 9912



Locking lever,
single locking lever,
Han® Q 8/0,
black



09 00 000 5244



Han Q

Contents	Page
Han® K 3/0.....	14.7
Han® K 3/2.....	14.9
Hoods/Housings for Han® K 3/0, Han® K 3/2.....	14.11
Han® HC Modular 250.....	14.14
Hoods/Housings for Han® HC Modular 250.....	14.16
Han® HC Modular 350.....	14.21
Hoods/Housings for Han® HC Modular 350.....	14.24
Han® M hoods/housings for Han® HC Modular 350.....	14.40
Han® HC Modular 650.....	14.43
Hoods/Housings for Han® HC Modular 650.....	14.46
Han® 24 HPR EasyCon.....	14.54
Han® 24 HPR EasyCon - Accessories.....	14.60
Han® 48 HPR.....	14.61
Han® HC Individual.....	14.66
Han® HC Individual Sets.....	14.70

Assembly instructions

Remarks on the axial screw termination see chapter 00

Step 1: The outer diameter of the cable must not exceed 19.5 mm.

Strip the cable by 19 mm.

Insert the cable through hood.

Step 2: Press the Han HC contact on the cable strand and apply tightening torque according table 1 by using a tightening torques tool. Take care that all cable strands fit completely inside the contact termination cavity. During assembling adhere the cable and the contact to minimise axial movement or twisting.

Step 3: Move the perforated plate across the HC contacts.

Step 4: Fit frame onto the hexagon shape of the HC contact. Coding can be arranged by turning the contact within 60° steps. Bolt the frame together with perforated plate.

Step 5: Push back the packet inside the good.

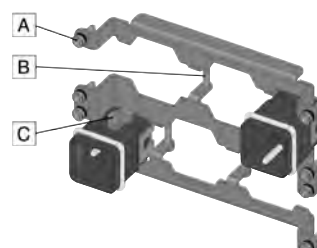
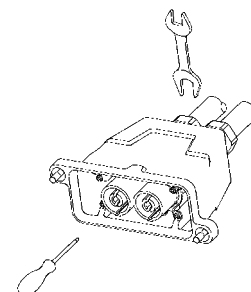
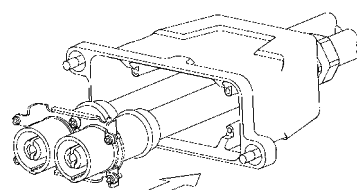
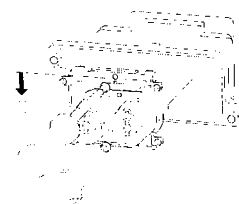
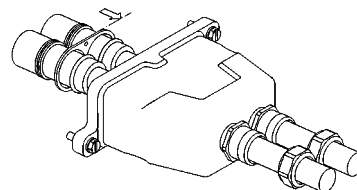
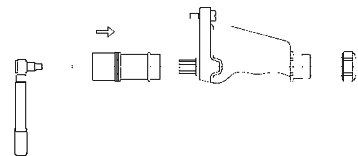
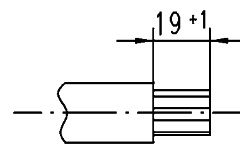
Step 6: Tighten the four M3 (tightening torque 0.5 Nm) screws and the cable gland according manufacturer recommendation.

During the assembly of the frame for 4 poles the following tightening torques have to be taken into consideration:

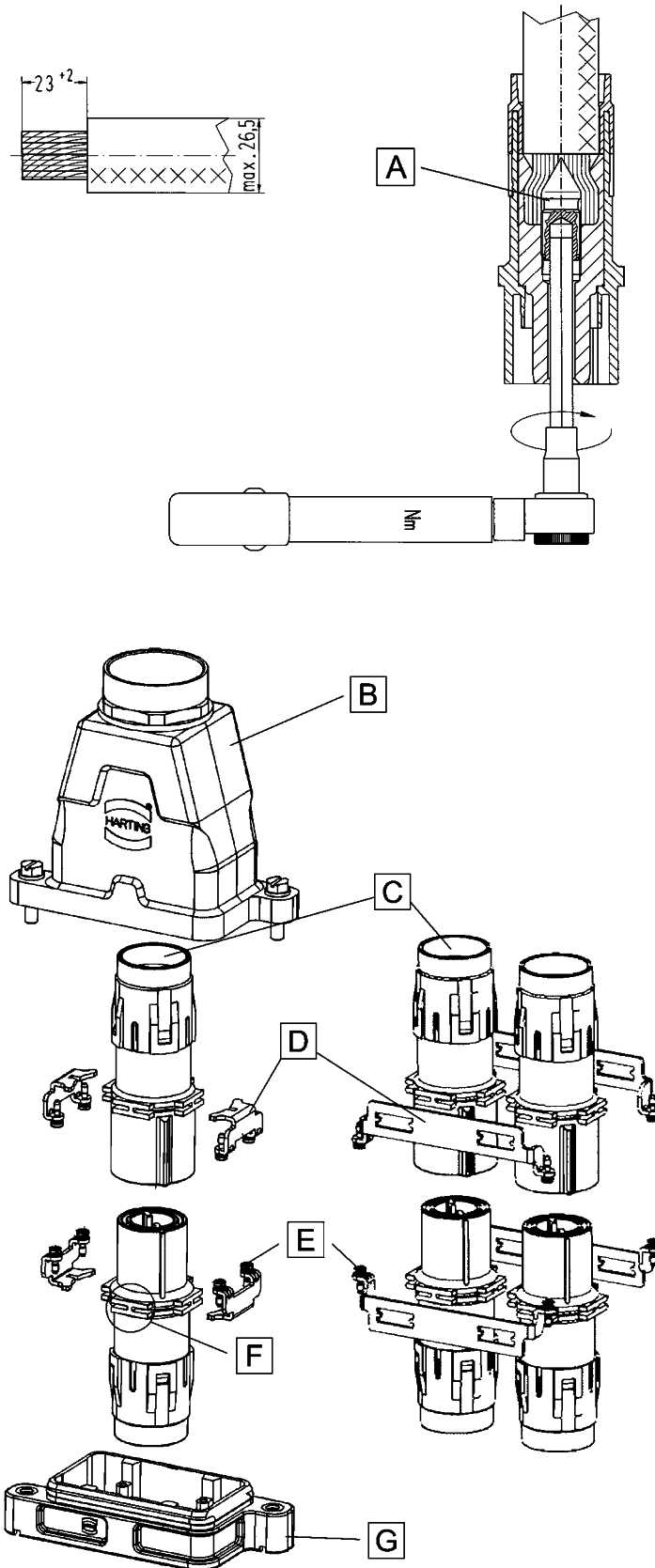
A = 0.5 Nm

B = 1.5 Nm

C = 0.25 Nm



Assembly instructions



1. Strip cable to $23+2$ mm.

2. Push conductor through the cable gland and the housing. Push the stripped end of the conductor into the termination entry of the module until the insulation touches the contact.

3. To tighten the axial screw, a hexagonal wrench size 8 is needed. Insert the hexagonal wrench on the mating side of the contact. At the same time, push the conductor over the axial screw. The locking screw has to be tightened with the recommended tightening torque that is determined by the conductor's cross section.

4. Once the modules are terminated, they are mounted into the housing by using two metal frames (tightening torque of the fixing screws = 0.5 Nm). The modules have 4 pegs formed by 2 parallel ribs (each peg shapes like a "H"). Each rib takes 1 pole frame, where the lateral link has to go into the relief of the frame. The 2 pole frames have 2 cutouts on the wall which get fitted to the "H"-shaped pegs (see figure). The heads of the screws have to face the mating direction of the module. Coding can be established by rotating the contact by 90 degrees. Therefore it is important that the corresponding modules are assembled in the correct position otherwise mating is not possible.

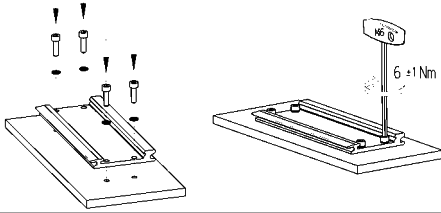
5. After assembling the modules in the housing, the tightening torque of the locking screw can be checked and corrected if necessary.

6. After final assembly of the contacts, the user should ensure that the cable is adequately strain relieved to protect the contact from radial stress.

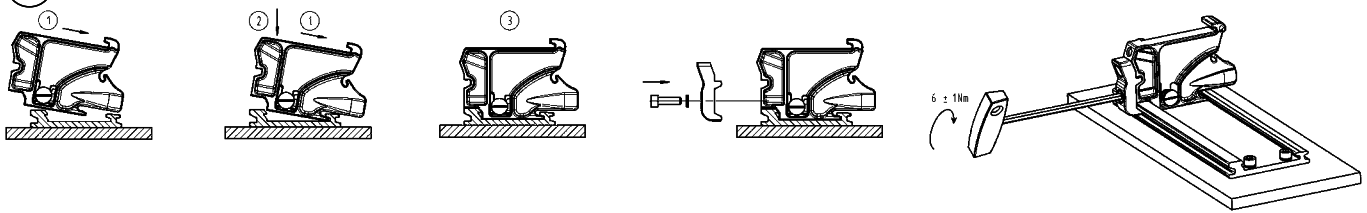
A - Axial screw, B - Hood, C - Termination entry,
D - Frame, E - Fixing screws, F - parallel ribs with
H-shape, G - Housings bulkhead mounting,

Assembly and construction

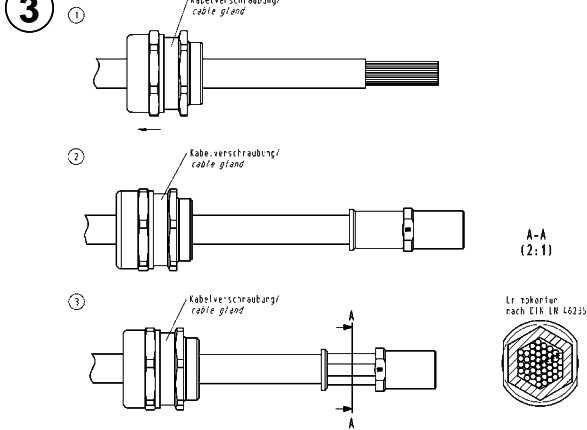
1 Assembly carrier plate



2 Assembly locking module



3 Crimping



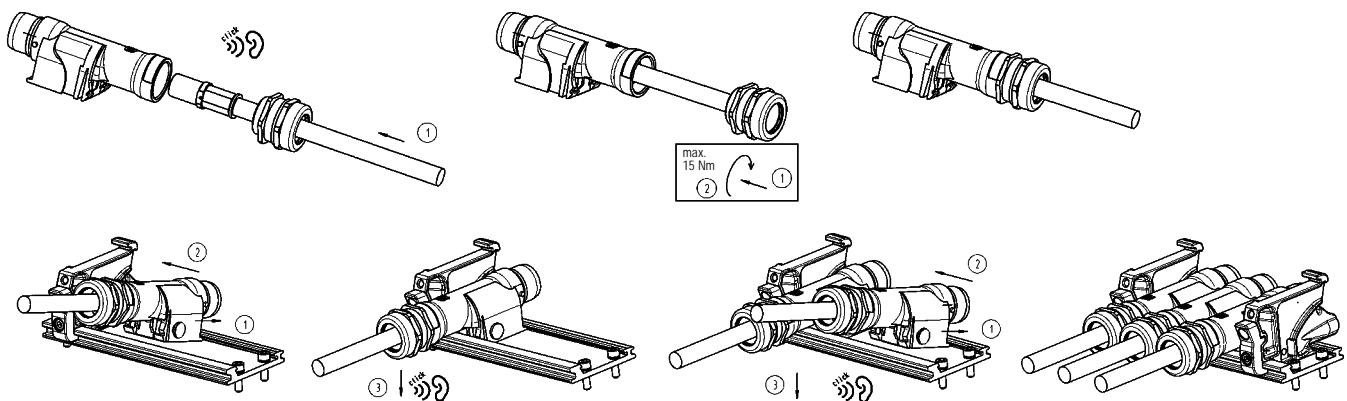
Wire gauge	Tool identification	Stripping length
25 mm ²	10	26 mm
35 mm ²	12	26 mm
50 mm ²	14	28 mm
70 mm ²	16	28 mm
95 mm ²	18	30 mm
120 mm ²	20	24 mm

* For stranded wire acc. to IEC 60 228 class 5

4 Assembly identification carrier module



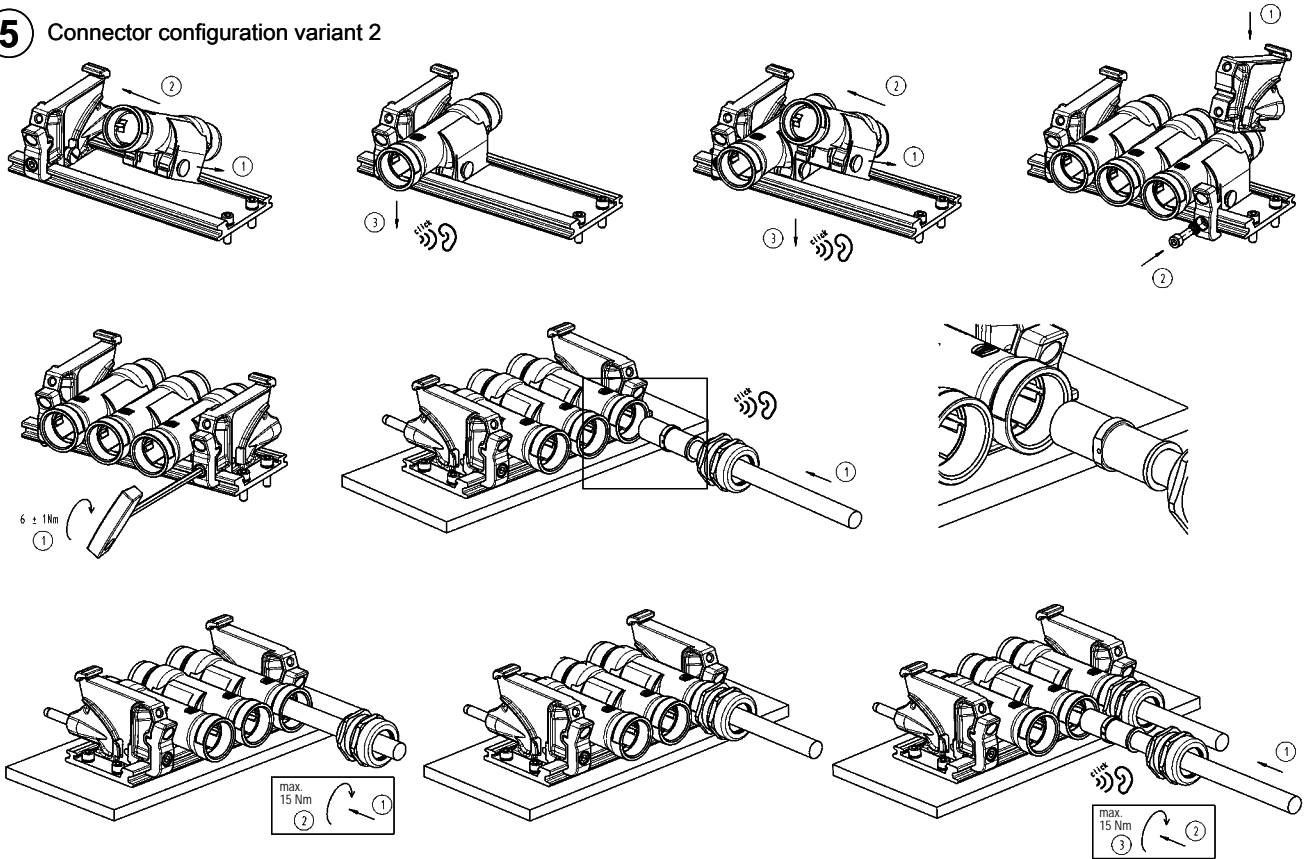
5 Connector configuration variant 1



HC-Modular

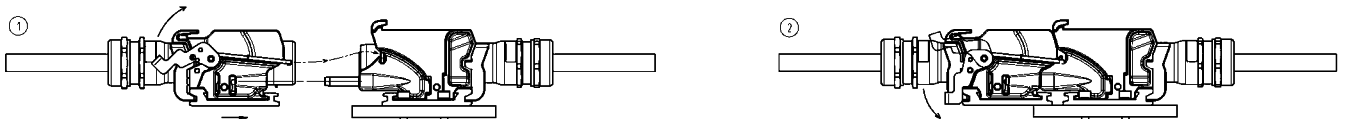
Assembly and construction

5 Connector configuration variant 2

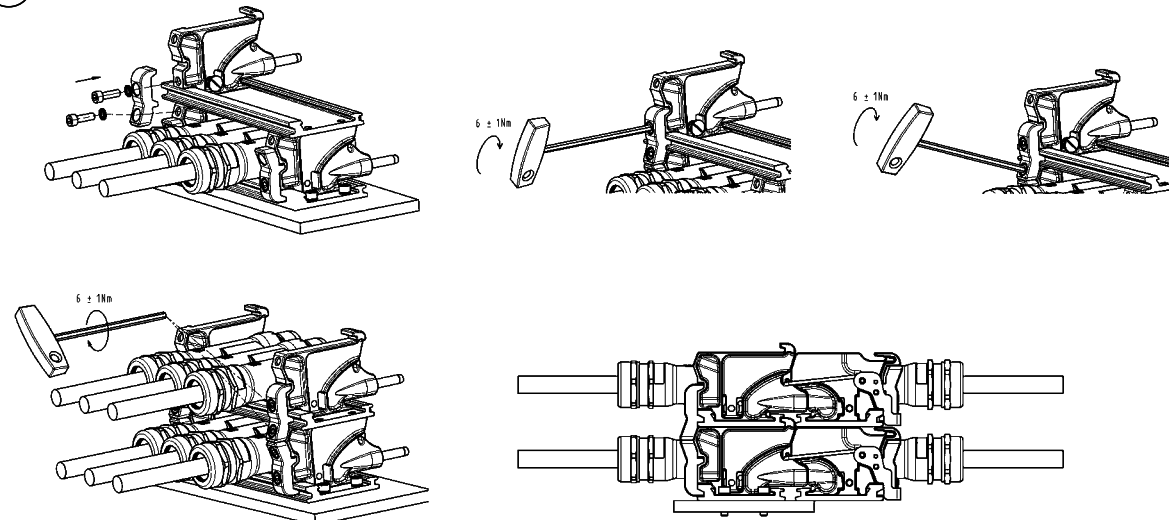


HC-Modular

6 Locking

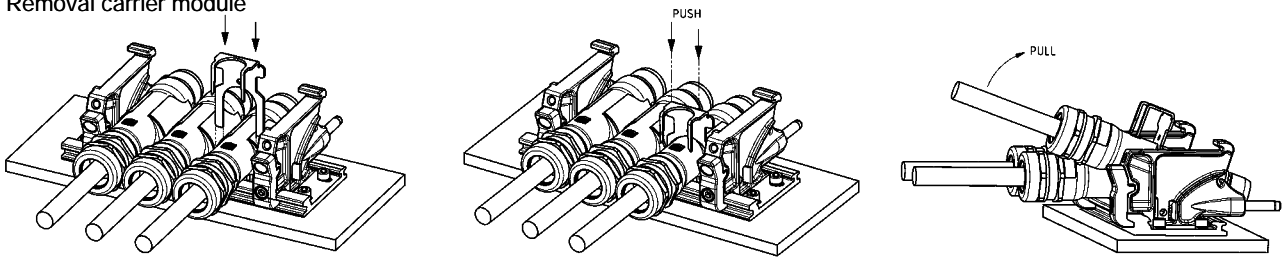


7 Stackable rail system

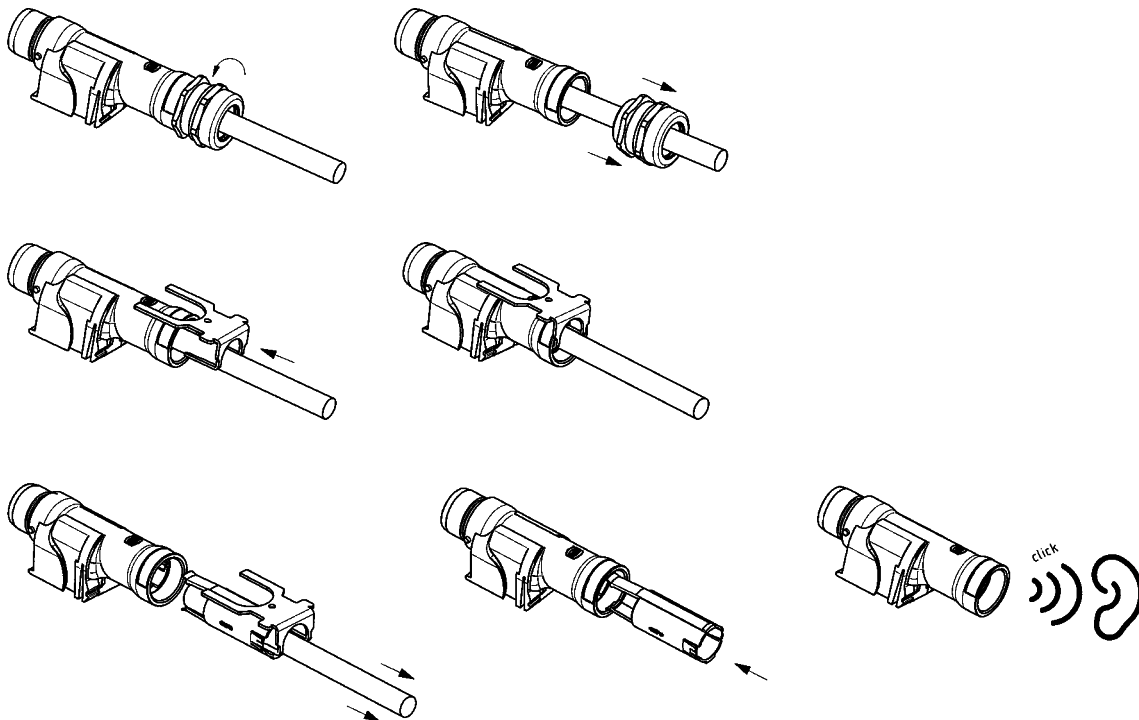


Removal

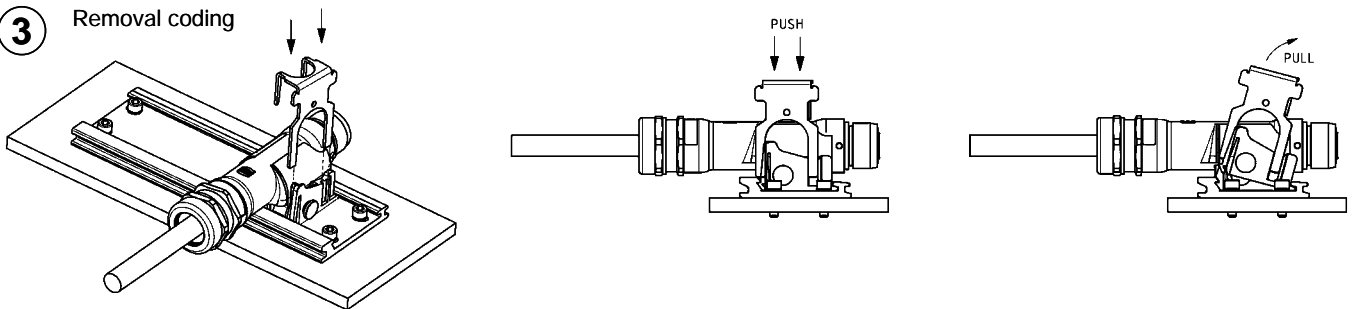
1 Removal carrier module



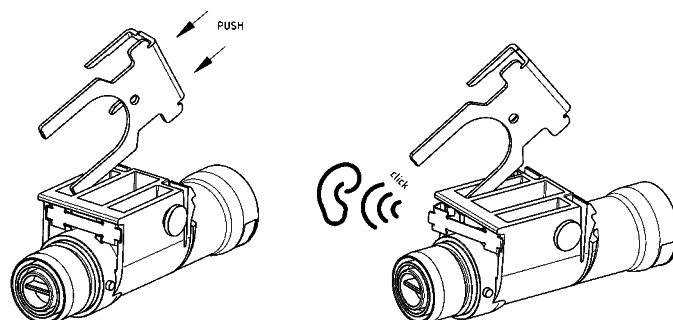
2 Removal contacts



3 Removal coding



4 Removal Identification carrier module



Features

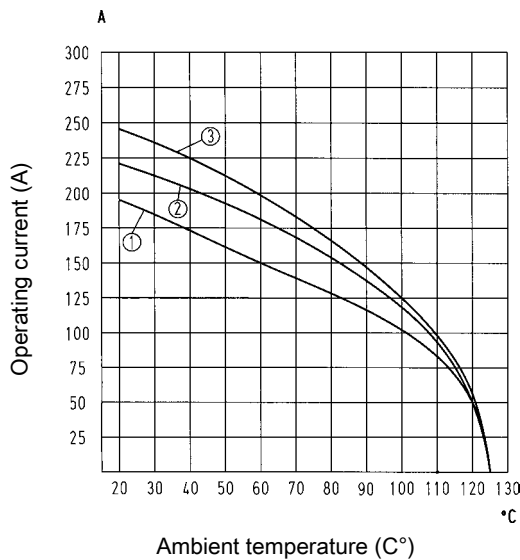
- The ideal connector for transmission of high currents requiring little space
- The vertical and angled versions offer solutions for almost all applications
- The angled versions offer a space-saving 90° cable wiring

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



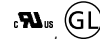
- ① Wire cross section 35 mm²
- ② Wire cross section 50 mm²
- ③ Wire cross section 70 mm²

Technical characteristics

Contacts	3/0
Electrical data acc. to IEC 61984	200 A 1150/2000 V 8 kV 3
Rated current	200 A
Rated voltage conductor - ground	1150 V
Rated voltage conductor - conductor	2000 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated current acc. to UL	200 A
Rated current acc. to CSA	160 A
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 61984
IEC 60664-1



Details

ATTENTION! Only to be used with special Han® 24 HPR hoods and housings!

Hex key 09 99 000 0371 see chapter 90

Remarks on the axial screw technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

3/0

1150/2000 V
200 A

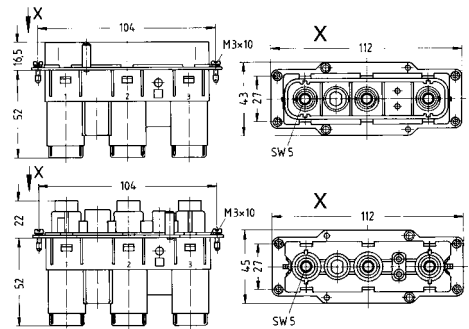


Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	

High Current Connectors,
Axial screw terminal,
top entry,
silver plated contacts,
contact resistance ≤0.2 mOhm



35 – 70 09 38 005 2621 09 38 005 2721



Distance for contact max. 21 mm
Stripping length 22 mm

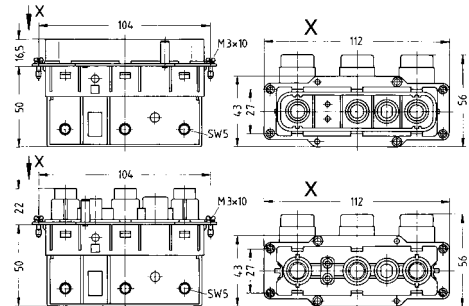
Tightening torque

mm ²	35	50	70
Nm	8	9	10

High Current Connectors,
Axial screw terminal,
angled entry,
silver plated contacts,
contact resistance ≤0.2 mOhm



35 – 70 09 38 005 2622 09 38 005 2722



Distance for contact max. 21 mm
Stripping length 22 mm

Tightening torque

mm ²	35	50	70
Nm	8	9	10

HC-Modular

Features

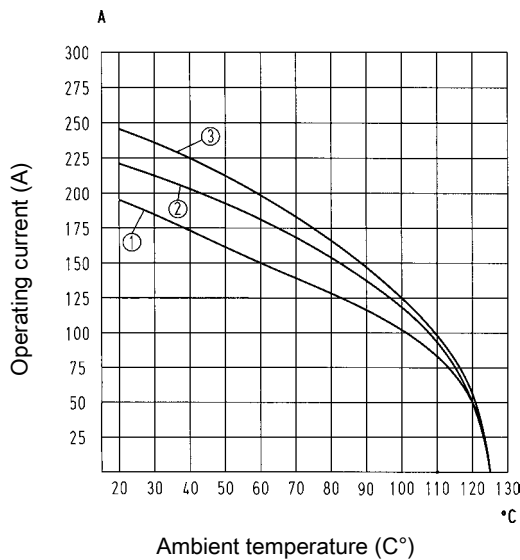
- The ideal connector for transmission of high currents requiring little space
- The vertical and angled versions offer solutions for almost all applications
- The angled versions offer a space-saving 90° cable wiring

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 35 mm²
- ② Wire cross section 50 mm²
- ③ Wire cross section 70 mm²

Technical characteristics

Contacts	3/2
Electrical data acc. to IEC 61984	200 A 1150/2000 V 8 kV 3
Rated current	200 A
Rated voltage conductor - ground	1150 V
Rated voltage conductor - conductor	2000 V
Rated impulse voltage	8 kV
Pollution degree	3
Electrical data, signal	16 A 400 V 6 kV 3
Rated current	16 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Rated current acc. to UL	200 A
Rated current acc. to UL, signal area	16 A
Rated current acc. to CSA	160 A
Rated current acc. to CSA, signal area	16 A
Rated voltage acc. to UL	600 V
Rated voltage acc. to UL, signal	600 V
Rated voltage acc. to CSA	600 V
Rated voltage acc. to CSA, signal	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals

IEC 61984
IEC 60664-1



Details

ATTENTION! Only to be used with special Han® 24 HPR hoods and housings!

Hex key 09 99 000 0371 see chapter 90

Remarks on the axial screw technique


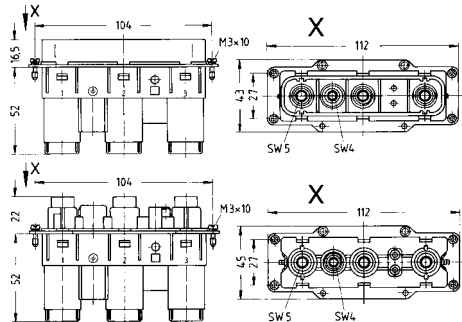

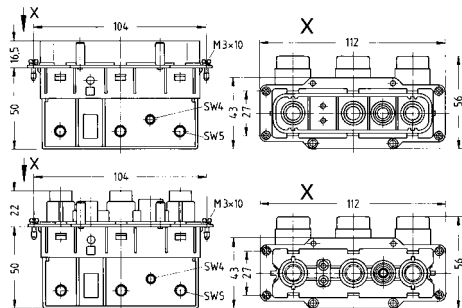
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Hex key for PE contact 09 99 000 0370 see chapter 90

Number of contacts

3/2+

1150/2000 V / 400 V
200 A/16 A

Identification	Wire cross section (mm ²)	Wire cross section PE (mm ²)	Part number		Drawing Dimensions in mm								
			male	female									
High Current Connectors, Axial screw terminal, top entry 	35 – 70	16 – 35	09 38 005 2601	09 38 005 2701	 <p>Distance for contact max. 21 mm Stripping length Power contacts 22 mm Stripping length Signal contacts 7 mm Stripping length PE contact 14 mm Wire cross section Control system 2.5 mm²</p> <p>Tightening torque</p> <table border="1"> <tr> <td>mm²</td> <td>35</td> <td>50</td> <td>70</td> </tr> <tr> <td>Nm</td> <td>8</td> <td>9</td> <td>10</td> </tr> </table> <p>Tightening torque Signal contacts 0.5 Nm Tightening torque PE contact 6 Nm</p>	mm ²	35	50	70	Nm	8	9	10
mm ²	35	50	70										
Nm	8	9	10										
High Current Connectors, Axial screw terminal, angled entry 	35 – 70	16 – 35	09 38 005 2602	09 38 005 2702	 <p>Distance for contact max. 21 mm Stripping length Power contacts 22 mm Stripping length Signal contacts 7 mm Stripping length PE contact 14 mm Wire cross section Control system 2.5 mm²</p> <p>Tightening torque</p> <table border="1"> <tr> <td>mm²</td> <td>35</td> <td>50</td> <td>70</td> </tr> <tr> <td>Nm</td> <td>8</td> <td>9</td> <td>10</td> </tr> </table> <p>Tightening torque Signal contacts 0.5 Nm Tightening torque PE contact 6 Nm</p>	mm ²	35	50	70	Nm	8	9	10
mm ²	35	50	70										
Nm	8	9	10										

HC-Modular

Features

- Hoods/Housings, pressure tight
- Highly EMC resistant
- Screw locking M6
- Field of application: For external electrical interconnections in vehicles, in highly demanding environments and wet areas, as well as for sensitive interconnections that have to be shielded
- Distinguishing feature: colour-coded black, internal seal (RAL 9005)

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Protection class acc. to UL 50	NEMA 4/12
Degree of protection acc. to IEC 60529	IP69K
Degree of protection acc. to IEC 60529	IP65 / IP68
Tightening torque (locking)	4 Nm
Corrosion resistance	ASTM B117-09 (500 h)
Material (hoods/housings)	aluminium die-cast, corrosion resistant
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	stainless steel
Material (seal)	NBR

Specifications and approvals



Identification	Cable entry	Part number	Drawing Dimensions in mm	
Han® HPR, Hoods, top entry, screw locking, high construction	1xM63	19 40 024 0420		
Han® HPR, Hoods, top entry, screw locking	3xM25 3xM25, 1xM20	19 40 024 0461 19 40 024 0471		
Han® HPR, Hoods, angled entry, screw locking	3xM25	19 40 024 0631		

HC-Modular

Features

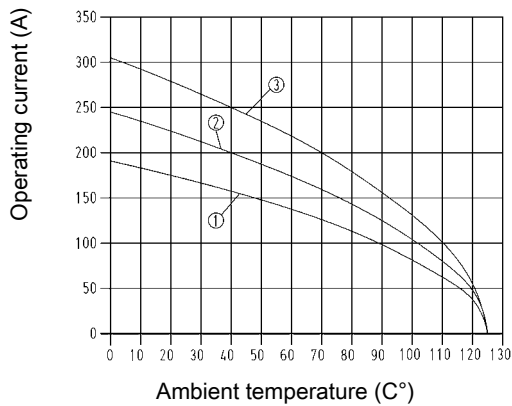
- Contacts for fine stranded wire
- Low mating forces
- Suitable for HPR® housings

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 35 mm²
 - ② Wire cross section 50 mm²
 - ③ Wire cross section 70 mm²
- 4 contacts in Han® 24 HPR

Technical characteristics

Electrical data acc. to IEC 61984	250 A 2000 V 12 kV 3
Rated current	250 A
Rated voltage	2000 V
Rated impulse voltage	12 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984
EN 50124-1



Details


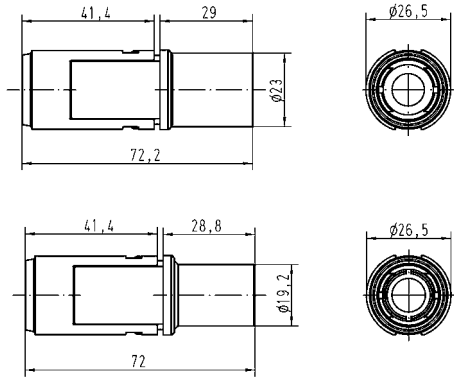


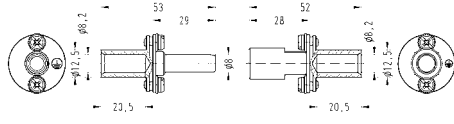
Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Removal tool 09 99 000 0332 see chapter 90

2000 V
250 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																				
		male	female																					
Han® HC Modular, Crimp terminal 		09 11 001 3021	09 11 001 3121	 <p>Max. insulation diameter 18 mm</p>																				
Crimp contact, TC 250, silver plated contacts, contact resistance ≤0.3 mOhm 	25 35 50 70	09 11 000 6126 09 11 000 6127 09 11 000 6128 09 11 000 6129	09 11 000 6226 09 11 000 6227 09 11 000 6228 09 11 000 6229	<table border="1"> <thead> <tr> <th>Wire gauge</th> <th>Tool identification</th> <th>Stripping length A</th> <th>∅</th> </tr> </thead> <tbody> <tr> <td>25 mm²</td> <td>10</td> <td>19 mm</td> <td>7 mm</td> </tr> <tr> <td>35 mm²</td> <td>12</td> <td>22 mm</td> <td>8.45 mm</td> </tr> <tr> <td>50 mm²</td> <td>14</td> <td>22 mm</td> <td>10.25 mm</td> </tr> <tr> <td>70 mm²</td> <td>16</td> <td>22 mm</td> <td>11.75 mm</td> </tr> </tbody> </table> <p>for stranded wire according to IEC 60 228 Class 5</p>	Wire gauge	Tool identification	Stripping length A	∅	25 mm ²	10	19 mm	7 mm	35 mm ²	12	22 mm	8.45 mm	50 mm ²	14	22 mm	10.25 mm	70 mm ²	16	22 mm	11.75 mm
Wire gauge	Tool identification	Stripping length A	∅																					
25 mm ²	10	19 mm	7 mm																					
35 mm ²	12	22 mm	8.45 mm																					
50 mm ²	14	22 mm	10.25 mm																					
70 mm ²	16	22 mm	11.75 mm																					
PE contact, Crimp contact, silver plated contacts, contact resistance ≤0.3 mOhm 	35	09 11 000 6104	09 11 000 6204																					

HC-Modular

Features


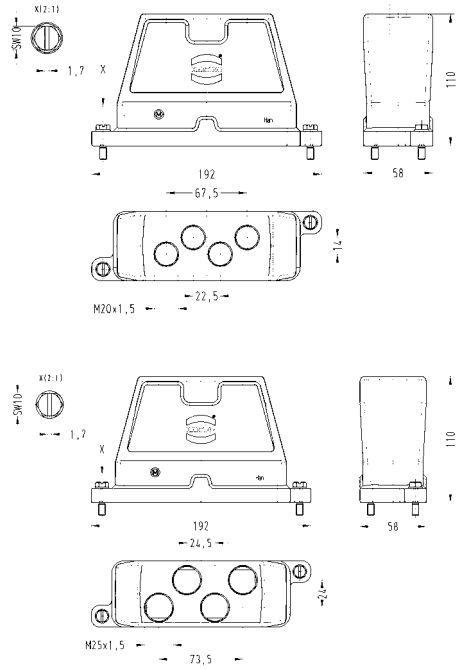

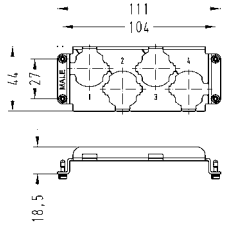
- Hoods/Housings, pressure tight
- Highly EMC resistant
- Screw locking M6
- Field of application: For external electrical interconnections in vehicles, in highly demanding environments and wet areas, as well as for sensitive interconnections that have to be shielded
- Distinguishing feature: colour-coded black, internal seal (RAL 9005)

Technical characteristics


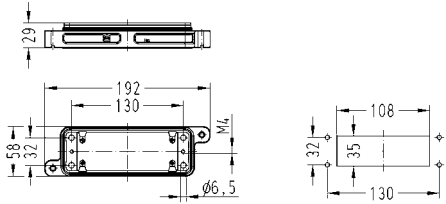

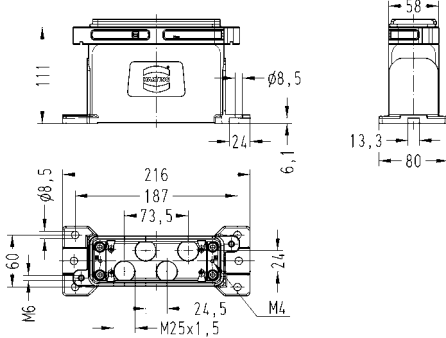

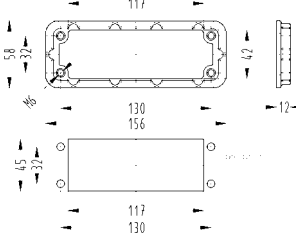

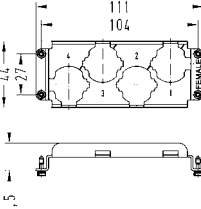
Limiting temperatures	-40 °C ... 125 °C
Protection class acc. to UL 50	NEMA 4/12
Degree of protection acc. to IEC 60529	IP69K
Degree of protection acc. to IEC 60529	IP65 / IP68
Tightening torque (locking)	4 Nm
Corrosion resistance	ASTM B117-09 (500 h)
Material (hoods/housings)	aluminium die-cast, corrosion resistant
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	stainless steel
Material (seal)	NBR
Material (accessories)	metal

Specifications and approvals


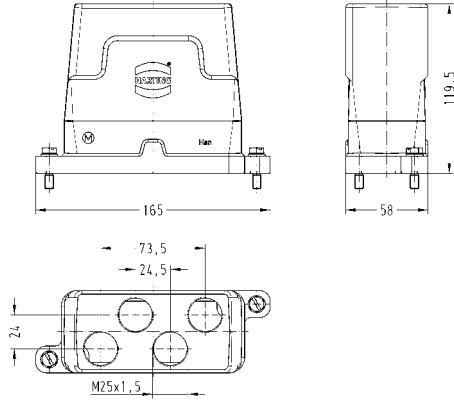

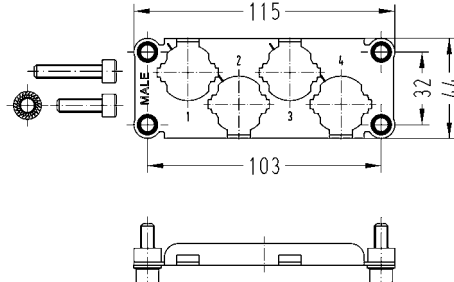


Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Hoods, top entry, screw locking</p> 	<p>4xM20 4xM25</p>	<p>19 40 024 0473 19 40 024 0474</p>	
<p>Frame, for male inserts, Han® HC Modular 250, 4 pins</p> 		<p>09 11 000 9925</p>	 <p>Tightening torque Fixing screws M3: 0.5 Nm</p>

HC-
Modular

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® HPR, Bulkhead mounted housings, screw locking 		09 40 024 0311	
Han® HPR, Surface mounted housings, top entry, screw locking 	4xM25	19 40 024 1242	
Han® HPR, Mounting frames 		09 40 000 9955	
Frame, for female inserts, Han® HC Modular 250, 4 pins 		09 11 000 9926	 <p>Tightening torque Fixing screws M3: 0.5 Nm</p>

HC-Modular

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Hoods, top entry, screw locking, enlarged</p> 	<p>4xM25</p>	<p>19 40 016 0478</p>	
<p>Frame, for male inserts, Han® HC Modular 250, 4 pins</p> 		<p>09 11 000 9937</p>	 <p>Tightening torque Fixing screws M6: 10 Nm</p>

HC-
Modular

Features

- Contacts for fine stranded wire
- Low mating forces
- Suitable for HPR® housings
- UL approvals for axial-screw and screw terminal

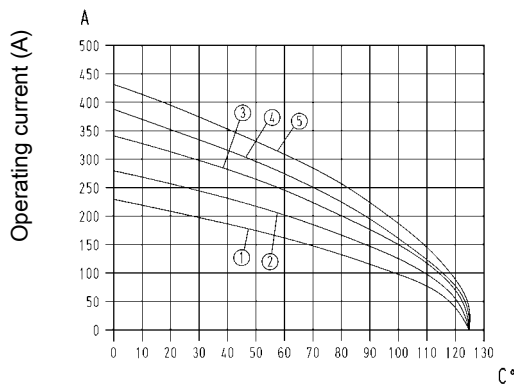
Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

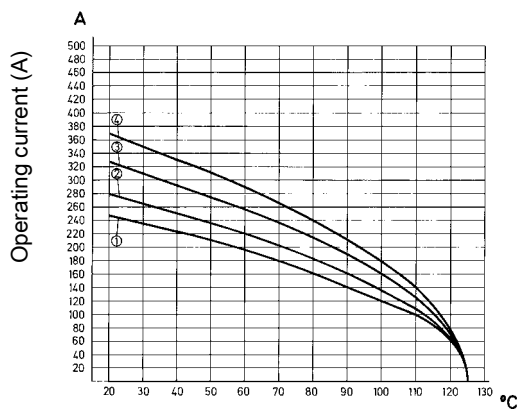
Measuring and testing techniques acc. to IEC 60512-5-2

Crimp terminal



- ① Wire cross section 35 mm²
- ② Wire cross section 50 mm²
- ③ Wire cross section 70 mm²
- ④ Wire cross section 95 mm²
- ⑤ Wire cross section 120 mm²
three contacts in Han® 24 HPR

Axial screw termination
Screw terminal



- ① Wire cross section 50 mm²
- ② Wire cross section 70 mm²
- ③ Wire cross section 95 mm²
- ④ Wire cross section 120 mm²
three contacts in Han® 24 HPR

Technical characteristics

Electrical data acc. to IEC 61984	350 A 2000 V 12 kV 3
Rated current	350 A
Rated voltage	2000 V
Rated impulse voltage	12 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate and polyamide
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Electrical data up to 350 A 4000 V 18 kV 3 by using a hexagonal adapter and the HARTING cable gland, in order to realize the clearance and creepage distance.

Crimping tools see chapter 90

Hex key 09 99 000 0371 see chapter 90

Remarks on the axial screw technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Remarks on the crimp technique

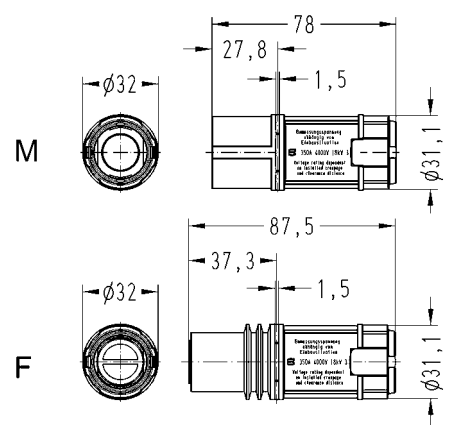
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

2000 V
350 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	

Han® HC Modular, Crimp terminal

Wire cross section (mm ²)	Part number	
	male	female
	09 11 001 3001	09 11 001 3101



Max. insulation diameter 22 mm

HC-Modular


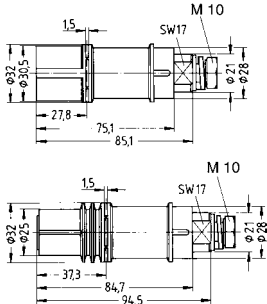

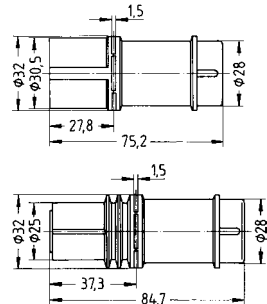

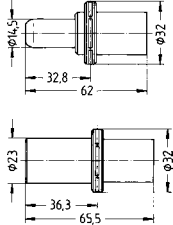
Crimp contact, TC 350, silver plated contacts, contact resistance ≤0.3 mOhm

Wire cross section (mm ²)	Part number	
	male	female
25	09 11 000 6139	09 11 000 6239
35	09 11 000 6140	09 11 000 6240
50	09 11 000 6141	09 11 000 6241
70	09 11 000 6142	09 11 000 6242
95	09 11 000 6143	09 11 000 6243
120	09 11 000 6144	09 11 000 6244

Wire gauge	Ø	Stripping length
25 mm ²	7	26 mm
35 mm ²	8.2	26 mm
50 mm ²	10	28 mm
70 mm ²	11.5	28 mm
95 mm ²	13.5	30 mm
120 mm ²	15.5	24 mm

for stranded wire according to IEC 60 228 Class 5
Crimp zone acc. to DIN 46235

2000 V
350 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm												
		male	female													
Han® HC Modular, Screw terminal, silver plated contacts, contact resistance ≤0.2 mOhm 	35 – 120	09 11 001 2655	09 11 001 2755	 <p>Tightening torque 14 Nm for cable lug ≤ 120 mm² Please ensure to hold up the contact with a wrench size 17 to apply the tightening torque</p>												
Han® HC Modular, Axial screw terminal, silver plated contacts, contact resistance ≤0.2 mOhm 	35 – 70 95 – 120	09 11 001 2651 09 11 001 2652	09 11 001 2751 09 11 001 2752	 <p>Tightening torque</p> <table border="1"> <tr> <td>mm²</td> <td>35</td> <td>50</td> <td>70</td> <td>95</td> <td>120</td> </tr> <tr> <td>Nm</td> <td>8</td> <td>10</td> <td>12</td> <td>14</td> <td>16</td> </tr> </table> <p>Max. insulation diameter 19.5 mm Stripping length 19...20 mm</p>	mm ²	35	50	70	95	120	Nm	8	10	12	14	16
mm ²	35	50	70	95	120											
Nm	8	10	12	14	16											
PE contact, Axial screw contact, silver plated contacts, contact resistance ≤0.2 mOhm 	35 – 70	09 11 000 6156	09 11 000 6256	 <p>Tightening torque</p> <table border="1"> <tr> <td>mm²</td> <td>35</td> <td>50</td> <td>70</td> </tr> <tr> <td>Nm</td> <td>8</td> <td>10</td> <td>12</td> </tr> </table> <p>Stripping length 19...20 mm</p>	mm ²	35	50	70	Nm	8	10	12				
mm ²	35	50	70													
Nm	8	10	12													

HC-Modular

Features


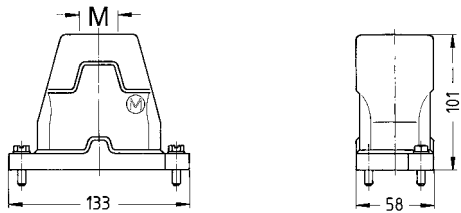

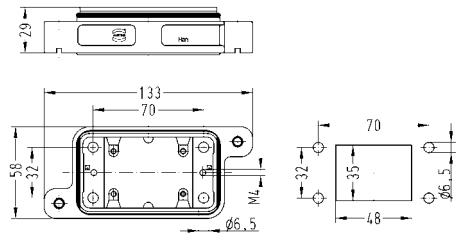

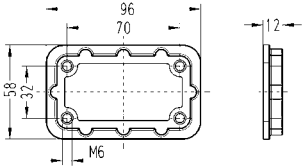


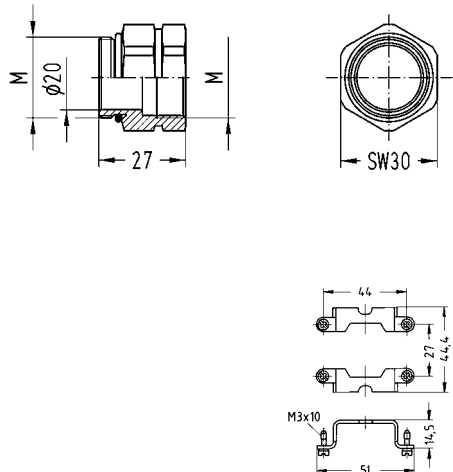
- Hoods/Housings, pressure tight
- Highly EMC resistant
- Screw locking M6
- Field of application: For external electrical interconnections in vehicles, in highly demanding environments and wet areas, as well as for sensitive interconnections that have to be shielded
- Distinguishing feature: colour-coded black, internal seal (RAL 9005)

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Protection class acc. to UL 50	NEMA 4/12
Degree of protection acc. to IEC 60529	IP69K
Degree of protection acc. to IEC 60529	IP65 / IP68
Tightening torque (locking)	4 Nm
Corrosion resistance	ASTM B117-09 (500 h)
Material (hoods/housings)	aluminium die-cast, corrosion resistant
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	stainless steel
Material (seal)	NBR
Material (accessories)	metal


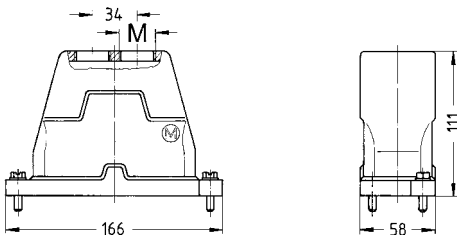

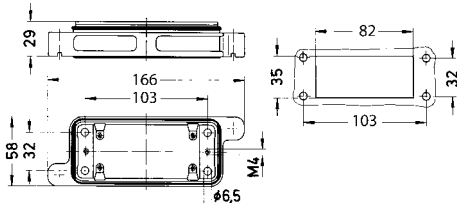

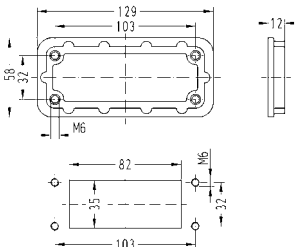

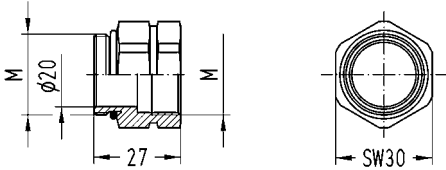
Specifications and approvals



Identification	Cable entry	Size	Part number	Drawing Dimensions in mm
<p>Han® HPR, Hoods, top entry, screw locking</p> 	<p>1xM25 1xM32</p>		<p>19 40 006 0411 19 40 006 0412</p>	
<p>Han® HPR, Bulkhead mounted housings, screw locking</p> 			<p>09 40 006 0311</p>	
<p>Han® HPR, Mounting frames</p> 			<p>09 40 000 9901</p>	
<p>Hexagonal adapter, with O-ring</p>  <p>to reach the electrical data up to 350 A 4000 V 18 kV 3</p> <p>Frame, 1 pin, Han® HC Modular 350</p> 		<p>M25 M32</p>	<p>19 36 000 5134 19 36 000 5135</p> <p>09 11 000 9951</p>	 <p>Tightening torque Fixing screws M3: 0.5 Nm</p>


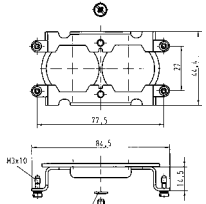
HC-
Modular


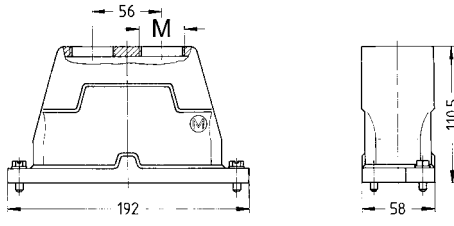

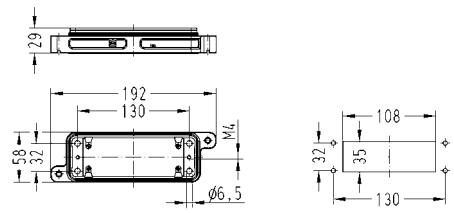

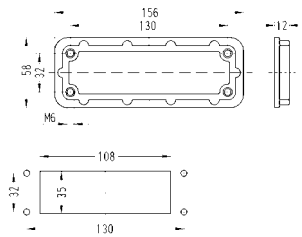

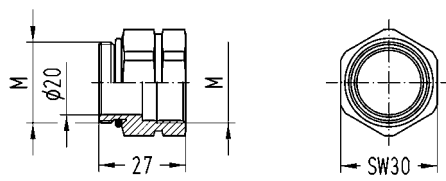


Identification	Cable entry	Size	Part number	Drawing Dimensions in mm
Han® HPR, Hoods, top entry, screw locking 	2xM25		19 40 016 0431	
Han® HPR, Bulkhead mounted housings, screw locking 			09 40 016 0311	
Han® HPR, Mounting frames, screw locking 			09 40 000 9903	 <p>Panel cut out</p>
Hexagonal adapter, with O-ring  <p>to reach the electrical data up to 350 A 4000 V 18 kV 3</p>		M25	19 36 000 5134	

HC-
Modular


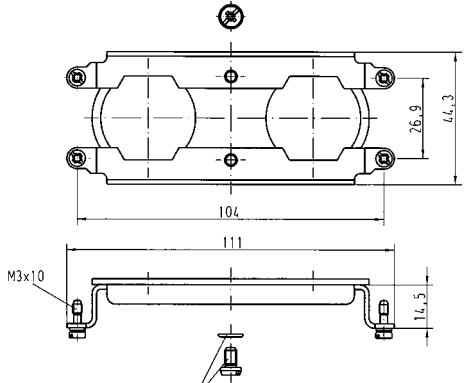


Identification	Cable entry	Size	Part number	Drawing Dimensions in mm
<p>Frame, 2 pins, Han® HC Modular 350</p> 			09 11 000 9952	 <p>Tightening torque Fixing screws M3: 0.5 Nm Tightening torque Fixing screws M4: 1.5 Nm enclosed separately</p>


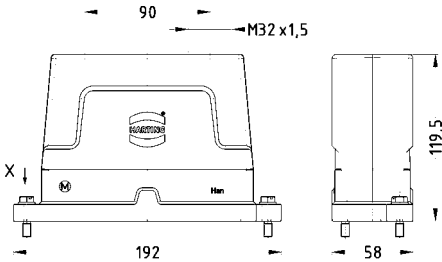

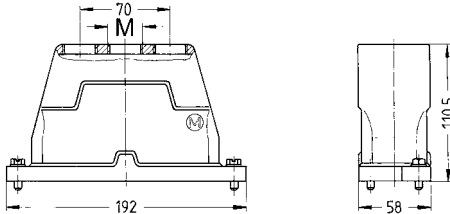


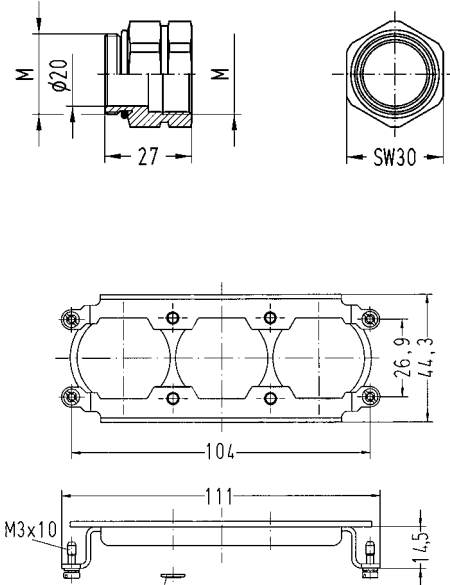
Identification	Cable entry	Size	Part number	Drawing Dimensions in mm
Han® HPR, Hoods, top entry, screw locking 	2xM32		19 40 024 0432	
Han® HPR, Bulkhead mounted housings, screw locking 			09 40 024 0311	
Han® HPR, Mounting frames 			09 40 000 9904	 <p>Panel cut out</p>
Hexagonal adapter, with O-ring  <p>to reach the electrical data up to 350 A 4000 V 18 kV 3</p>		M32	19 36 000 5135	


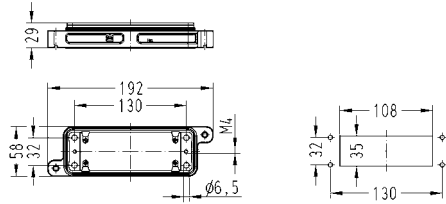

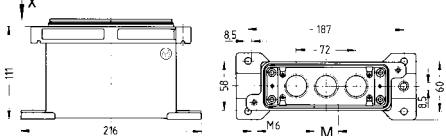

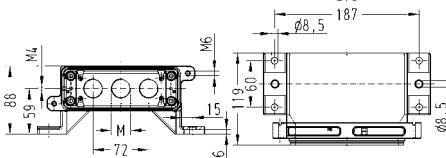

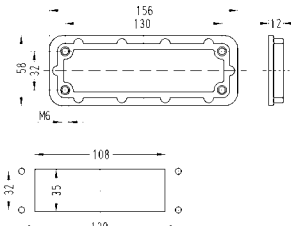

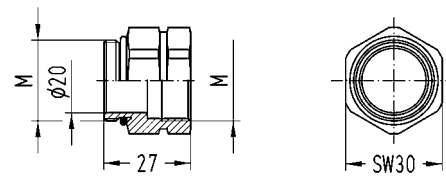
HC-
Modular




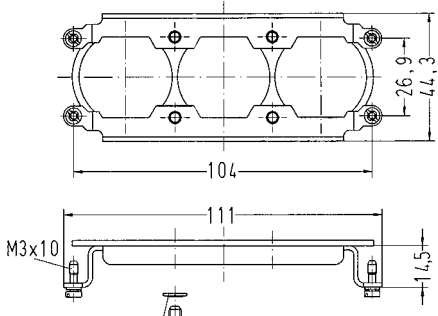
Identification	Cable entry	Size	Part number	Drawing Dimensions in mm
<p>Frame, 2 pins, Han® HC Modular 350</p> 			09 11 000 9956	 <p>Tightening torque Fixing screws M3: 0.5 Nm Tightening torque Fixing screws M4: 1.5 Nm enclosed separately</p>

HC-Modular


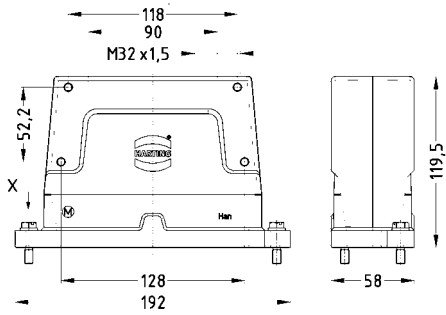



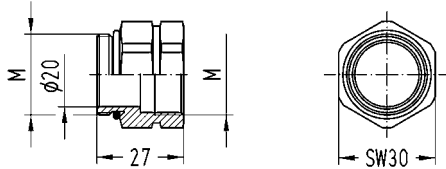
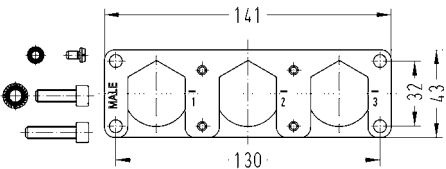
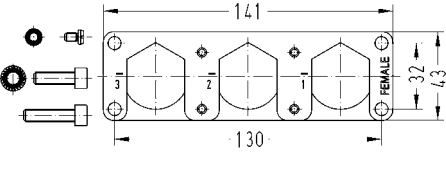
Identification	Cable entry	Size	Part number	Drawing Dimensions in mm
<p>Han® HPR, Hoods, top entry, screw locking, high construction</p> 	3xM32		19 40 024 0467	
<p>Han® HPR, Hoods, top entry, screw locking</p> 	3xM25		19 40 024 0461	
<p>Hexagonal adapter, with O-ring</p>  <p>to reach the electrical data up to 350 A 4000 V 18 kV 3</p> <p>Frame, 3 pins, Han® HC Modular 350</p> 		M25 M32	19 36 000 5134 19 36 000 5135 09 11 000 9963	 <p>Tightening torque Fixing screws M3: 0.5 Nm Tightening torque Fixing screws M4: 1.5 Nm enclosed separately</p>

Identification	Cable entry	Size	Part number	Drawing Dimensions in mm
Han® HPR, Bulkhead mounted housings, screw locking 			09 40 024 0311	
Han® HPR, Surface mounted housings, straight version, top entry, screw locking 	3xM25		19 40 024 1231	
Han® HPR, Surface mounted housings, horizontal version, top entry, screw locking 	3xM25		19 40 024 0931	
Han® HPR, Mounting frames 			09 40 000 9904	 <p>Panel cut out</p>
Hexagonal adapter, with O-ring  <p>to reach the electrical data up to 350 A 4000 V 18 kV 3</p>		M25	19 36 000 5134	


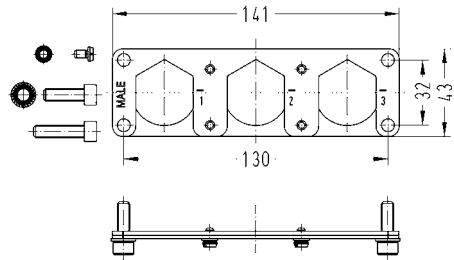

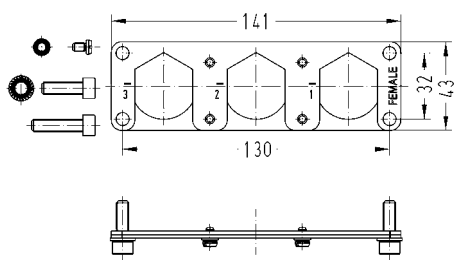


Identification	Cable entry	Size	Part number	Drawing Dimensions in mm
<p>Frame, 3 pins, Han® HC Modular 350</p> 			<p>09 11 000 9963</p>	 <p>Tightening torque Fixing screws M3: 0.5 Nm Tightening torque Fixing screws M4: 1.5 Nm enclosed separately</p>

HC-
Modular


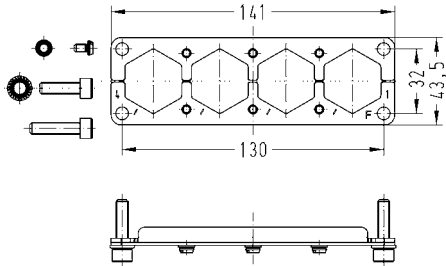
Identification	Cable entry	Size	Part number	Drawing Dimensions in mm
<p>Han® HPR, Hoods, top entry, screw locking, enlarged</p> 	<p>3xM32</p>		<p>19 40 024 0468</p>	
<p>Hexagonal adapter, with O-ring</p>  <p>to reach the electrical data up to 350 A 4000 V 18 kV 3</p> <p>Frame, for male inserts, Han® HC Modular 350, 3 pins</p> <p>Range of delivery: 4 x M4 screw, 4 x washer SK S4, 4 x washer SK S6, 4 x cheese-head screw M6 x 20, 4 x cheese-head screw M6 x 25</p>  <p>Frame, for female inserts, Han® HC Modular 350, 3 pins</p> <p>Range of delivery: 4 x M4 screw, 4 x washer SK S4, 4 x washer SK S6, 4 x cheese-head screw M6 x 20, 4 x cheese-head screw M6 x 25</p> 		<p>M32</p>	<p>19 36 000 5135</p> <p>09 11 000 9957</p> <p>09 11 000 9958</p>	  <p>Tightening torque Fixing screws M6: 10 Nm Tightening torque Screws M4: 1.5 Nm</p>  <p>Tightening torque Fixing screws M6: 10 Nm Tightening torque Screws M4: 1.5 Nm</p>


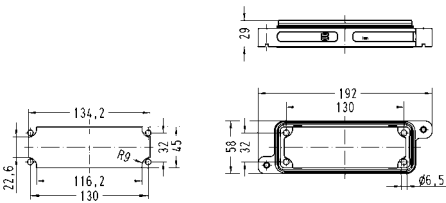

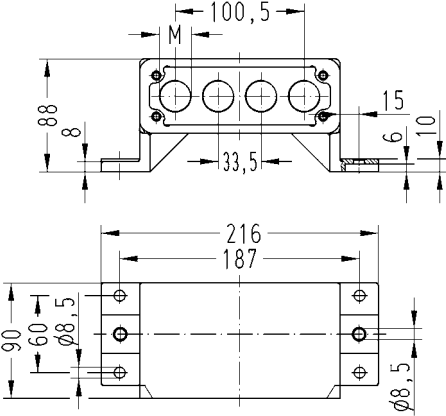

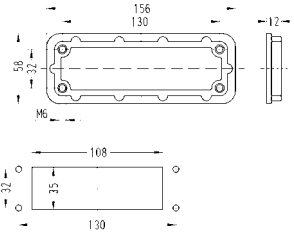
HC-
Modular

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Frame, for male inserts, Han® HC Modular 350, 3 pins</p> <p>Range of delivery: 4 x M4 screw, 4 x washer SK S4, 4 x washer SK S6, 4 x cheese-head screw M6 x 20, 4 x cheese-head screw M6 x 25</p> 		09 11 000 9957	 <p>Tightening torque Fixing screws M6: 10 Nm Tightening torque Screws M4: 1.5 Nm</p>
<p>Frame, for female inserts, Han® HC Modular 350, 3 pins</p> <p>Range of delivery: 4 x M4 screw, 4 x washer SK S4, 4 x washer SK S6, 4 x cheese-head screw M6 x 20, 4 x cheese-head screw M6 x 25</p> 		09 11 000 9958	 <p>Tightening torque Fixing screws M6: 10 Nm Tightening torque Screws M4: 1.5 Nm</p>


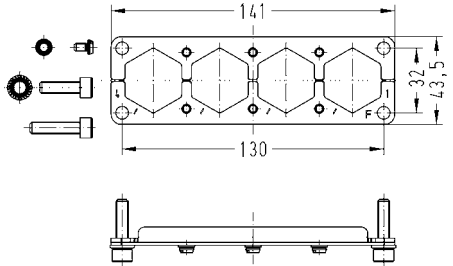

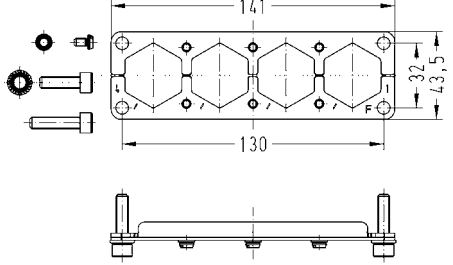
HC-
Modular



Identification	Cable entry	Size	Part number	Drawing Dimensions in mm
<p>Frame, for female inserts, Han® HC Modular 350, 4 pins</p> <p>Range of delivery: 4 x M4 screw, 4 x washer SK S4, 4 x washer SK S6, 4 x cheese-head screw M6 x 20, 4 x cheese-head screw M6 x 35, 4 x heat shrink tube</p> 			09 11 000 9965	 <p>Tightening torque Fixing screws M6: 10 Nm Tightening torque Screws M4: 1.5 Nm</p>

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® HPR, Bulkhead mounted housings, screw locking, enlarged 		09 40 024 0368	
Han® HPR, Surface mounted housings, top entry, screw locking, enlarged, horizontal version 	4xM25	19 40 024 0978	 <p>Required housing, bulkhead mounting, 09 40 024 0368 not included, must be ordered separately</p>
Han® HPR, Mounting frames 		09 40 000 9904	 <p>Panel cut out</p>

HC-Modular

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Frame, for male inserts, Han® HC Modular 350, 4 pins</p> <p>Range of delivery: 4 x M4 screw, 4 x washer SK S4, 4 x washer SK S6, 4 x cheese-head screw M6 x 20, 4 x cheese-head screw M6 x 35, 4 x heat shrink tube</p> 		09 11 000 9964	 <p>Tightening torque Fixing screws M6: 10 Nm Tightening torque Screws M4: 1.5 Nm</p>
<p>Frame, for female inserts, Han® HC Modular 350, 4 pins</p> <p>Range of delivery: 4 x M4 screw, 4 x washer SK S4, 4 x washer SK S6, 4 x cheese-head screw M6 x 20, 4 x cheese-head screw M6 x 35, 4 x heat shrink tube</p> 		09 11 000 9965	 <p>Tightening torque Fixing screws M6: 10 Nm Tightening torque Screws M4: 1.5 Nm</p>

Features

- Hoods/Housings for higher environmental requirements


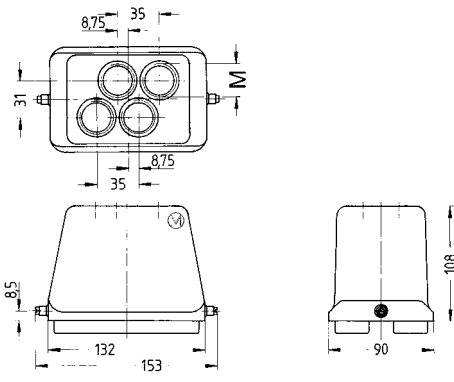

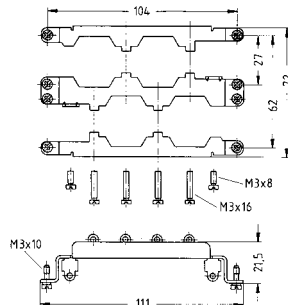
Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP65
Corrosion resistance	ASTM B117-09 (500 h)
Material (hoods/housings)	aluminium
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	stainless steel
Material (seal)	FPM
Material (accessories)	metal

Specifications and approvals



single locking lever

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® M, Hoods, top entry</p> 	<p>4xM25</p>	<p>19 37 048 0401</p>	
<p>Frame, for 4 x HC 350 contacts + 2 x Han® Q 5/0</p> 		<p>09 11 000 9954</p>	 <p>Tightening torque Fixing screws M3: 0.5 Nm Tightening torque Fixing screws Han® Q 5/0: 0.25 Nm Tightening torque Cross-tying screws 1.5 Nm</p>

HC-Modular

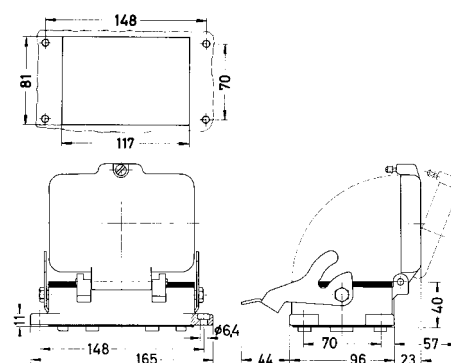
single locking lever

Identification	Part number	Drawing Dimensions in mm
----------------	-------------	-----------------------------

Han® M,
Bulkhead mounted housings



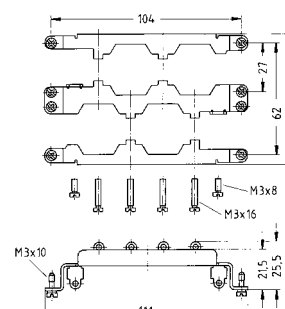
09 37 048 0301



Frame,
for 4 x HC 350 contacts + 2 x Han® Q 5/0



09 11 000 9955



Tightening torque Fixing screws M3: 0.5 Nm
 Tightening torque Fixing screws Han® Q 5/0:
 0.25 Nm
 Tightening torque Cross-tying screws 1.5 Nm

HC-
Modular

Features

- Contacts for fine stranded wire
- Low mating forces
- Suitable for HPR® housings
- UL approvals for axial-screw and screw terminal

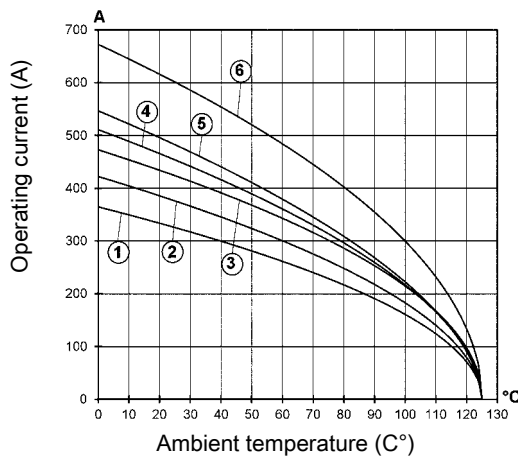
Derating

Current carrying capacity

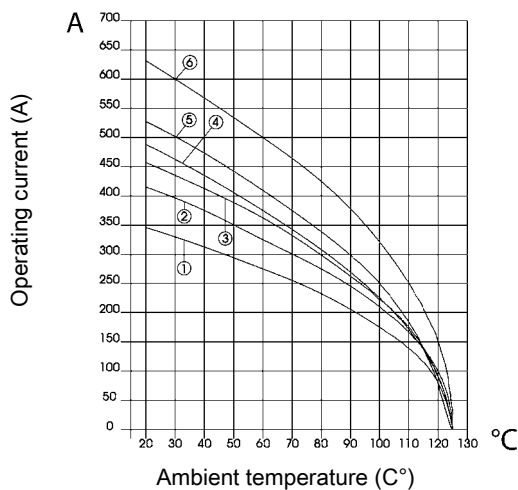
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2

Crimp terminal
three contacts in Han® 24 HPR



Screw terminal / Axial screw terminal
three contacts in Han® 24 HPR



- ① Wire cross section 70 mm²
- ② Wire cross section 95 mm²
- ③ Wire cross section 120 mm²
- ④ Wire cross section 150 mm²
- ⑤ Wire cross section 185 mm²
- ⑥ Wire cross section 240 mm²

Technical characteristics

Electrical data acc. to IEC 61984	650 A 4000 V 18 kV 3
Rated current	650 A
Rated voltage	4000 V
Rated impulse voltage	18 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate and polyamide
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Hex key 09 99 000 0372 see chapter 90


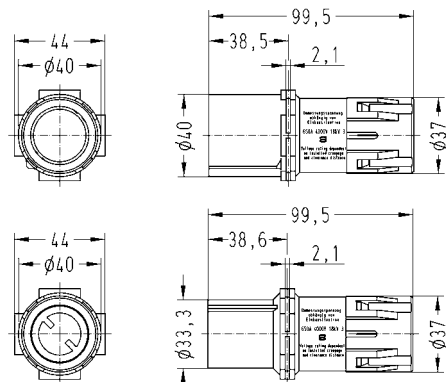
Remarks on the axial screw technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

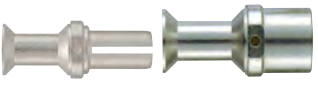
Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.


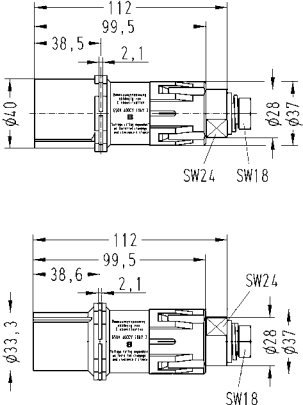

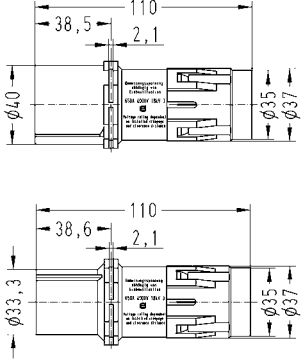
4000 V
650 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han® HC Modular, Crimp terminal 		09 11 001 3012	09 11 001 3112	 <p>Max. insulation diameter 70...185 mm²: 27 mm Max. insulation diameter 240 mm²: 32 mm</p>

HC-Modular

Crimp contact, TC 650, silver plated contacts, contact resistance ≤0.3 mOhm 	70 95 120 150 185 240	09 11 000 6161 09 11 000 6162 09 11 000 6163 09 11 000 6164 09 11 000 6165 09 11 000 6168	09 11 000 6261 09 11 000 6262 09 11 000 6263 09 11 000 6264 09 11 000 6265 09 11 000 6268	<table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length A</th> </tr> </thead> <tbody> <tr> <td>70 mm²</td> <td>11.5</td> <td>42 mm</td> </tr> <tr> <td>95 mm²</td> <td>13.5</td> <td>42 mm</td> </tr> <tr> <td>120 mm²</td> <td>15.5</td> <td>42 mm</td> </tr> <tr> <td>150 mm²</td> <td>17</td> <td>42 mm</td> </tr> <tr> <td>185 mm²</td> <td>19</td> <td>42 mm</td> </tr> <tr> <td>240 mm²</td> <td>21.5</td> <td>46 mm</td> </tr> </tbody> </table> <p>for stranded wire according to IEC 60 228 Class 5 Crimp zone acc. to DIN 46235</p>	Wire gauge	∅	Stripping length A	70 mm ²	11.5	42 mm	95 mm ²	13.5	42 mm	120 mm ²	15.5	42 mm	150 mm ²	17	42 mm	185 mm ²	19	42 mm	240 mm ²	21.5	46 mm
Wire gauge	∅	Stripping length A																							
70 mm ²	11.5	42 mm																							
95 mm ²	13.5	42 mm																							
120 mm ²	15.5	42 mm																							
150 mm ²	17	42 mm																							
185 mm ²	19	42 mm																							
240 mm ²	21.5	46 mm																							

4000 V
650 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm												
		male	female													
Han® HC Modular, Screw terminal, silver plated contacts, contact resistance ≤0.2 mOhm 	70–240	09 11 001 2675	09 11 001 2775	 <p>Tightening torque 16...18 for cable lug ≤ 240 mm² Please ensure to hold up the contact with a wrench size 24 to apply the tightening torque</p>												
Han® HC Modular, Axial screw terminal, silver plated contacts, contact resistance ≤0.2 mOhm 	70–120 150–185	09 11 001 2671 09 11 001 2672	09 11 001 2771 09 11 001 2772	 <p>Tightening torque</p> <table border="1"> <thead> <tr> <th>mm²</th> <th>70</th> <th>95</th> <th>120</th> <th>150</th> <th>185</th> </tr> </thead> <tbody> <tr> <td>Nm</td> <td>12</td> <td>14</td> <td>16</td> <td>17</td> <td>18</td> </tr> </tbody> </table> <p>Stripping length 23...25 Max. insulation diameter 26.5 mm</p>	mm ²	70	95	120	150	185	Nm	12	14	16	17	18
mm ²	70	95	120	150	185											
Nm	12	14	16	17	18											

HC-
Modular

Features


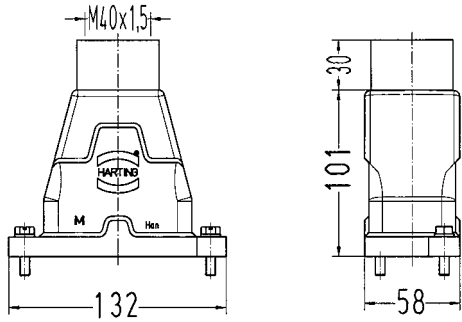

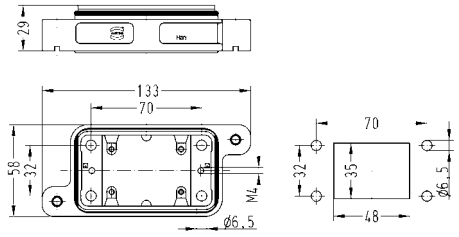

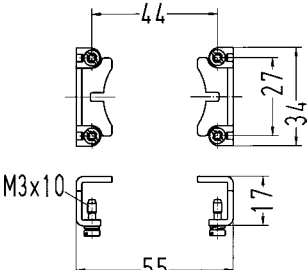
- Hoods/Housings, pressure tight
- Highly EMC resistant
- Screw locking M6
- Field of application: For external electrical interconnections in vehicles, in highly demanding environments and wet areas, as well as for sensitive interconnections that have to be shielded
- Distinguishing feature: colour-coded black, internal seal (RAL 9005)

Technical characteristics


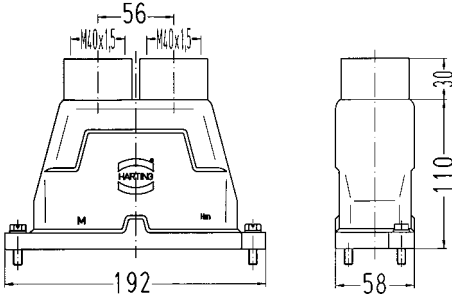

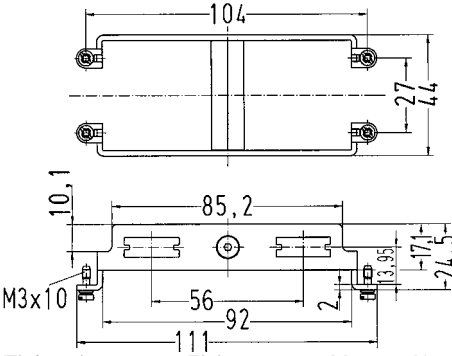
Limiting temperatures	-40 °C ... 125 °C
Protection class acc. to UL 50	NEMA 4/12
Degree of protection acc. to IEC 60529	IP69K
Degree of protection acc. to IEC 60529	IP65 / IP68
Tightening torque (locking)	4 Nm
Corrosion resistance	ASTM B117-09 (500 h)
Material (hoods/housings)	aluminium die-cast, corrosion resistant
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	stainless steel
Material (seal)	NBR
Material (accessories)	metal

Specifications and approvals


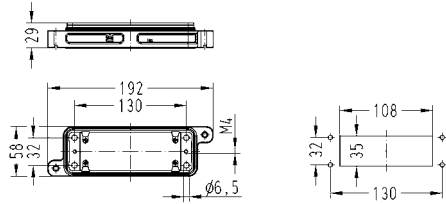

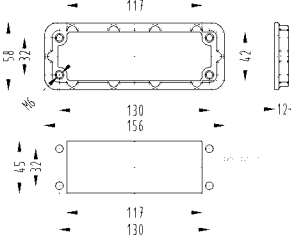

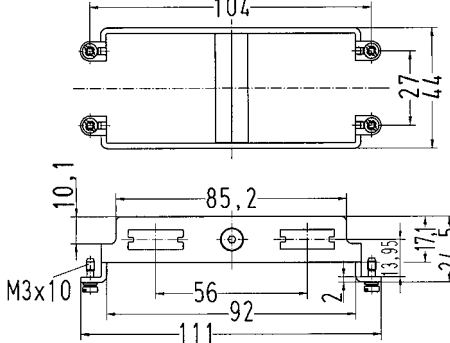


Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® HPR, Hoods, top entry, screw locking 	1xM40	19 40 006 0418	
Han® HPR, Bulkhead mounted housings, screw locking 		09 40 006 0314	
Frame, 1 pin, Han® HC Modular 650 		09 11 000 9971	 <p>Tightening torque Fixing screws M3: 0.5 Nm</p>


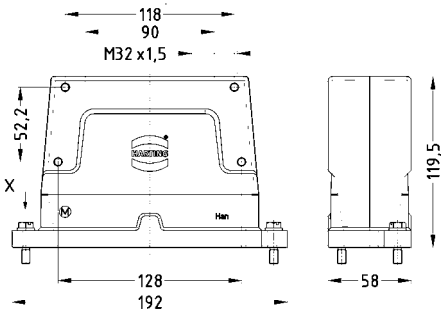



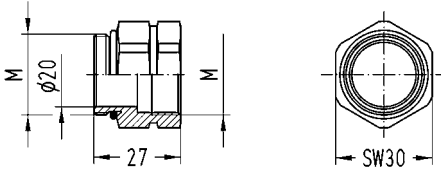
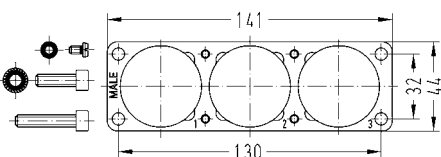
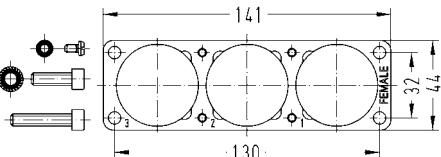
HC-Modular

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Hoods, top entry, screw locking</p> 	<p>2xM40</p>	<p>19 40 024 0438</p>	
<p>Frame, 2 pins, Han® HC Modular 650</p> 		<p>09 11 000 9972</p>	 <p>Tightening torque Fixing screws M3: 0.5 Nm Tightening torque Cross-tying screws M4: 1.5 Nm</p>


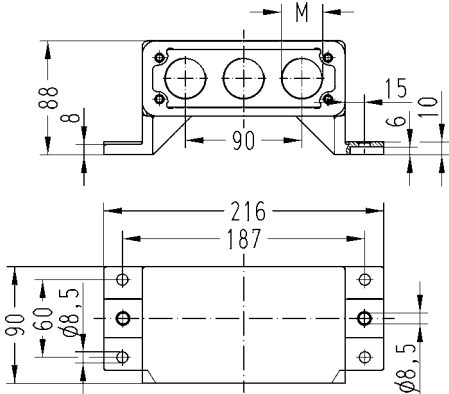


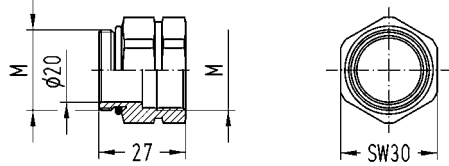
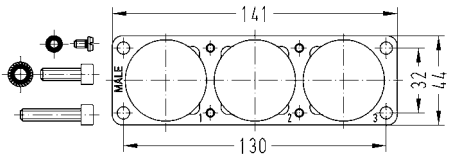
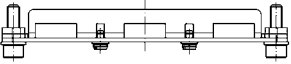
HC-
Modular

Identification	Part number	Drawing Dimensions in mm
Han® HPR, Bulkhead mounted housings, screw locking 	09 40 024 0311	
Han® HPR, Mounting frames 	09 40 000 9955	
Frame, 2 pins, Han® HC Modular 650 	09 11 000 9972	 <p data-bbox="1034 1547 1485 1621"> Tightening torque Fixing screws M3: 0.5 Nm Tightening torque Cross-tying screws M4: 1.5 Nm </p>

HC-
Modular


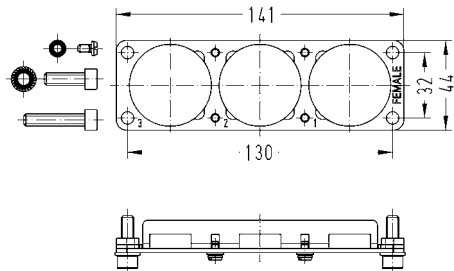
Identification	Cable entry	Size	Part number	Drawing Dimensions in mm
<p>Han® HPR, Hoods, top entry, screw locking, enlarged</p> 	<p>3xM32</p>		<p>19 40 024 0468</p>	
<p>Hexagonal adapter, with O-ring</p>  <p>to reach the electrical data up to 350 A 4000 V 18 kV 3</p> <p>Frame, for male inserts, Han® HC Modular 650, 3 pins</p> <p>Range of delivery: 4 x M4 screw, 4 x washer SK S4, 4 x washer SK S6, 4 x cheese-head screw M6 x 20, 4 x cheese-head screw M6 x 35</p>  <p>Frame, for female inserts, Han® HC Modular 650, 3 pins</p> <p>Range of delivery: 4 x M4 screw, 4 x washer SK S4, 4 x washer SK S6, 4 x cheese-head screw M6 x 20, 4 x cheese-head screw M6 x 35</p> 		<p>M32</p>	<p>19 36 000 5135</p> <p>09 11 000 9973</p> <p>09 11 000 9974</p>	  <p>Tightening torque Fixing screws M6: 10 Nm Tightening torque Screws M4: 1.5 Nm</p>  <p>Tightening torque Fixing screws M6: 10 Nm Tightening torque Screws M4: 1.5 Nm</p>

HC-
Modular

Identification	Cable entry	Size	Part number	Drawing Dimensions in mm
<p>Han® HPR, Surface mounted housings, top entry, screw locking, enlarged, horizontal version</p> 	<p>3xM32</p>		<p>19 40 024 0968</p>	 <p>Required housing, bulkhead mounting, 09 40 024 0368 not included, must be ordered separately</p>
<p>Hexagonal adapter, with O-ring</p>  <p>to reach the electrical data up to 350 A 4000 V 18 kV 3</p> <p>Frame, for male inserts, Han® HC Modular 650, 3 pins</p> <p>Range of delivery: 4 x M4 screw, 4 x washer SK S4, 4 x washer SK S6, 4 x cheese-head screw M6 x 20, 4 x cheese-head screw M6 x 35</p> 		<p>M32</p>	<p>19 36 000 5135</p> <p>09 11 000 9973</p>	   <p>Tightening torque Fixing screws M6: 10 Nm Tightening torque Screws M4: 1.5 Nm</p>

HC-
Modular



Identification	Cable entry	Size	Part number	Drawing Dimensions in mm
<p>Frame, for female inserts, Han® HC Modular 650, 3 pins</p> <p>Range of delivery: 4 x M4 screw, 4 x washer SK S4, 4 x washer SK S6, 4 x cheese-head screw M6 x 20, 4 x cheese-head screw M6 x 35</p> 			09 11 000 9974	 <p>Tightening torque Fixing screws M6: 10 Nm Tightening torque Screws M4: 1.5 Nm</p>

HC-
Modular

Features

- Hoods/Housings for higher EMC requirements
- Easy assembly due to split hood and surface mounting housing
- Many assembly possibilities due to separate assembly panels
- External termination of PE termination on hood and surface mounting housing
- Ideal motor/drive connector for transportation sector
- Secure and a visible connection of screening braid of shielded cables

Technical characteristics


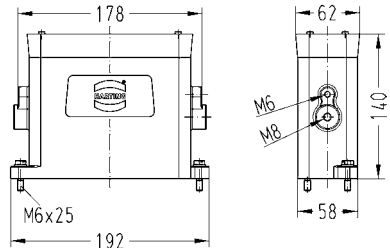

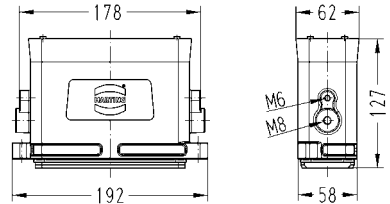

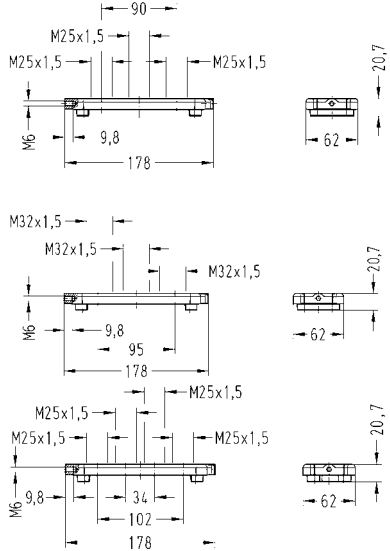
Limiting temperatures	-40 °C ... 125 °C
Protection class acc. to UL 50	NEMA 4/12
Degree of protection acc. to IEC 60529	IP69K
Degree of protection acc. to IEC 60529	IP65 / IP68
Tightening torque (locking)	4 Nm
Material (hoods/housings)	aluminium die-cast, corrosion resistant
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	stainless steel
Material (seal)	NBR
Material (accessories)	metal

Specifications and approvals



Details


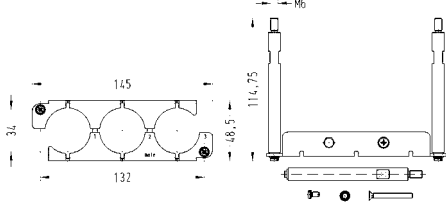

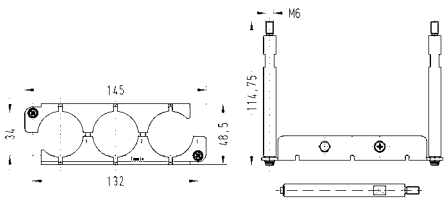

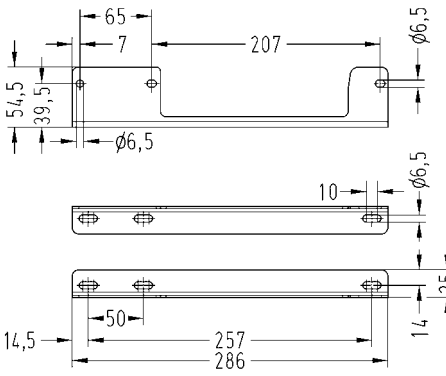

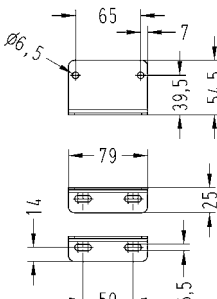
09 99 000 0334 **Insertion / Removal tool for shielding clamps**
see chapter 90

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR EasyCon, Hoods, screw locking</p> 		09 40 024 0451	 <p>Tightening torque Cover locking 6 Nm Tightening torque external PE 15 Nm</p>
<p>Han® HPR EasyCon, Surface mounted housings, screw locking</p> 		09 40 024 0951	 <p>Tightening torque Cover locking 6 Nm Tightening torque external PE 15 Nm</p>
<p>Han® HPR EasyCon, Cover, top entry, screw locking, for surface mounted housings, for hoods</p> 	3xM25 3xM32 4xM25	19 40 024 9901 19 40 024 9903 19 40 024 9902	


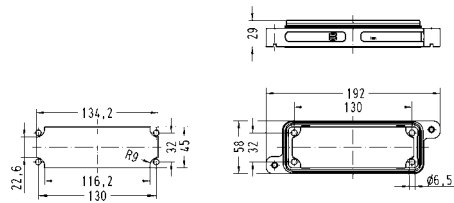

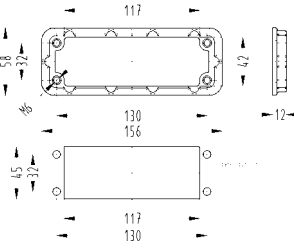


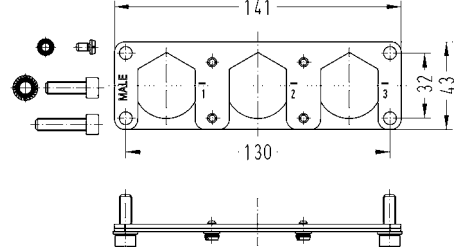
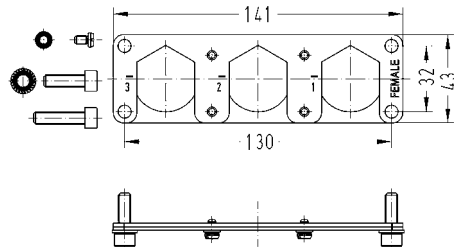
HC-
Modular

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Frame, for male inserts, Han® HC Modular 350, 3 pins</p> <p>Range of delivery: 2 x distance bolt (SW 7), 4 x M4 screw, 4 x washer SK S4</p>		09 40 024 9911	<p>Tightening torque Distance bolt 6 Nm Tightening torque Fixing screws M4: 1.5 Nm</p>
<p>Frame, for female inserts, Han® HC Modular 350, 3 pins</p> <p>Range of delivery: 2 x distance bolt (SW 7), 4 x M4 screw, 4 x washer SK S4</p>		09 40 024 9912	<p>Tightening torque Distance bolt 6 Nm Tightening torque Fixing screws M4: 1.5 Nm</p>
<p>Frame, for male inserts, Han® HC Modular 350, 4 pins</p> <p>Range of delivery: 2 x distance bolt (SW 7), 4 x M4 screw, 4 x washer SK S4, 4 x heat shrink tube</p>		09 40 024 9913	<p>Tightening torque Distance bolt 6 Nm Tightening torque Fixing screws M4: 1.5 Nm</p>
<p>Frame, for female inserts, Han® HC Modular 350, 4 pins</p> <p>Range of delivery: 2 x distance bolt (SW 7), 4 x M4 screw, 4 x washer SK S4, 4 x heat shrink tube</p>		09 40 024 9914	<p>Tightening torque Distance bolt 6 Nm Tightening torque Fixing screws M4: 1.5 Nm</p>


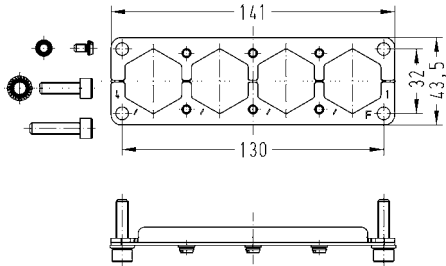

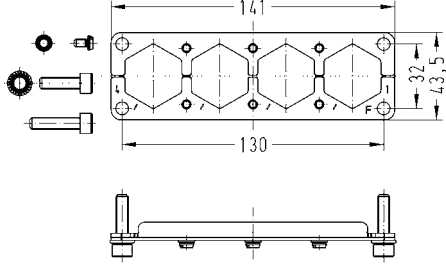

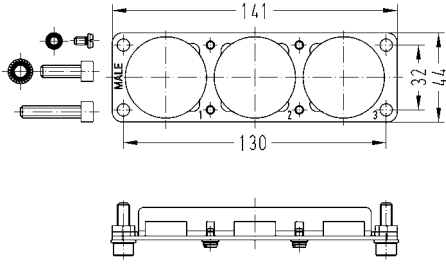

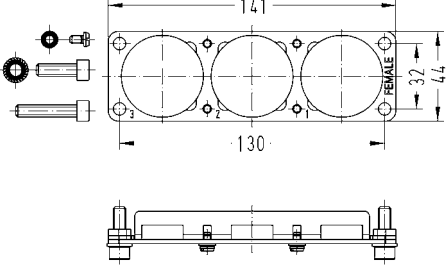
HC-
Modular

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Frame, for male inserts, Han® HC Modular 650, 3 pins</p> <p>Range of delivery: 2 x distance bolt (SW 7), 2 x M4 screw, 2 x washer SK S4, 2 x M4 countersunk screw</p> 		09 40 024 9921	 <p>Tightening torque Distance bolt 6 Nm Tightening torque Fixing screws M4: 1.5 Nm Tightening torque Cross-tying screws M4: 1.5 Nm</p>
<p>Frame, for female inserts, Han® HC Modular 650, 3 pins</p> <p>Range of delivery: 2 x distance bolt (SW 7), 2 x M4 screw, 2 x washer SK S4, 2 x M4 countersunk screw</p> 		09 40 024 9922	 <p>Tightening torque Distance bolt 6 Nm Tightening torque Fixing screws M4: 1.5 Nm Tightening torque Cross-tying screws M4: 1.5 Nm</p>
<p>Frame, long version</p> <p>Range of delivery: 6 x M6 screw, 6 x washer SK S6</p> 		09 40 000 9925	 <p>Tightening torque Fixing screws M6: 6 Nm</p>
<p>Frame, short version</p> <p>Range of delivery: 4 x M6 screw, 4 x washer SK S6</p> 		09 40 000 9926	 <p>Tightening torque Fixing screws M6: 6 Nm</p>

HC-
Modular

Identification	Part number	Drawing Dimensions in mm
<p>Han® HPR, Bulkhead mounted housings, screw locking, enlarged</p> 	<p>09 40 024 0368</p>	
<p>Han® HPR, Mounting frames</p> 	<p>09 40 000 9955</p>	
<p>Frame, for male inserts, Han® HC Modular 350, 3 pins</p> <p>Range of delivery: 4 x M4 screw, 4 x washer SK S4, 4 x washer SK S6, 4 x cheese-head screw M6 x 20, 4 x cheese-head screw M6 x 25</p>  <p>Frame, for female inserts, Han® HC Modular 350, 3 pins</p> <p>Range of delivery: 4 x M4 screw, 4 x washer SK S4, 4 x washer SK S6, 4 x cheese-head screw M6 x 20, 4 x cheese-head screw M6 x 25</p> 	<p>09 11 000 9957</p> <p>09 11 000 9958</p>	 <p>Tightening torque Fixing screws M6: 10 Nm Tightening torque Screws M4: 1.5 Nm</p>  <p>Tightening torque Fixing screws M6: 10 Nm Tightening torque Screws M4: 1.5 Nm</p>

HC-
Modular

Identification	Part number	Drawing Dimensions in mm
<p>Frame, for male inserts, Han® HC Modular 350, 4 pins</p> <p>Range of delivery: 4 x M4 screw, 4 x washer SK S4, 4 x washer SK S6, 4 x cheese-head screw M6 x 20, 4 x cheese-head screw M6 x 35, 4 x heat shrink tube</p> 	<p>09 11 000 9964</p>	 <p>Tightening torque Fixing screws M6: 10 Nm Tightening torque Screws M4: 1.5 Nm</p>
<p>Frame, for female inserts, Han® HC Modular 350, 4 pins</p> <p>Range of delivery: 4 x M4 screw, 4 x washer SK S4, 4 x washer SK S6, 4 x cheese-head screw M6 x 20, 4 x cheese-head screw M6 x 35, 4 x heat shrink tube</p> 	<p>09 11 000 9965</p>	 <p>Tightening torque Fixing screws M6: 10 Nm Tightening torque Screws M4: 1.5 Nm</p>
<p>Frame, for male inserts, Han® HC Modular 650, 3 pins</p> <p>Range of delivery: 4 x M4 screw, 4 x washer SK S4, 4 x washer SK S6, 4 x cheese-head screw M6 x 20, 4 x cheese-head screw M6 x 35</p> 	<p>09 11 000 9973</p>	 <p>Tightening torque Fixing screws M6: 10 Nm Tightening torque Screws M4: 1.5 Nm</p>
<p>Frame, for female inserts, Han® HC Modular 650, 3 pins</p> <p>Range of delivery: 4 x M4 screw, 4 x washer SK S4, 4 x washer SK S6, 4 x cheese-head screw M6 x 20, 4 x cheese-head screw M6 x 35</p> 	<p>09 11 000 9974</p>	 <p>Tightening torque Fixing screws M6: 10 Nm Tightening torque Screws M4: 1.5 Nm</p>


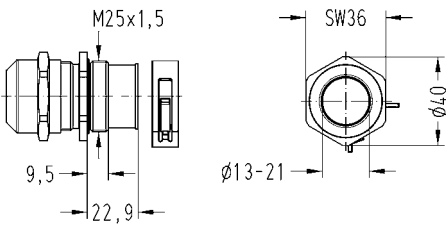

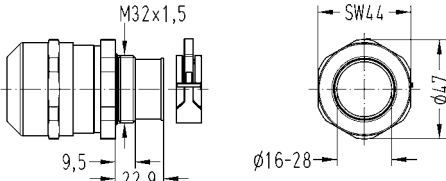

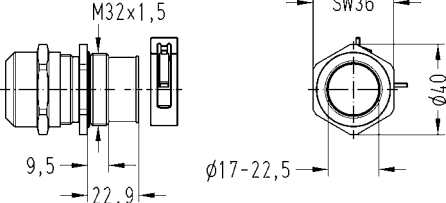

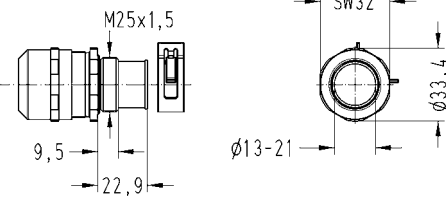

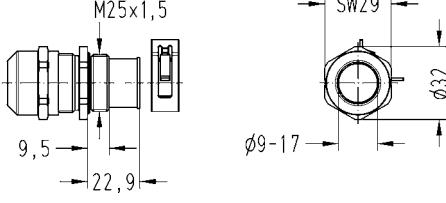
HC-
Modular

Features

- Secure and a visible connection of screening braid of shielded cables

Technical characteristics

Tightening torque	20 Nm 10 Nm
Material (screwing)	metal

Identification	Clamping range (mm)	Size	Part number	Drawing Dimensions in mm
Han® HPR EasyCon, EMC clamp, metal  Tightening torque 20 Nm	13 ... 21 16 ... 28 17 ... 22.5	M32	19 00 000 5014	
		M32	19 00 000 5022	
Han® HPR EasyCon, EMC clamp, metal  Tightening torque 20 Nm	13 ... 21 16 ... 28 17 ... 22.5	M32	19 00 000 5015	
		M32	19 00 000 5015	
Han® HPR EasyCon, EMC clamp, metal  Tightening torque 20 Nm	13 ... 21 16 ... 28 17 ... 22.5	M32	19 00 000 5015	
		M32	19 00 000 5015	
Han® HPR EasyCon, EMC clamp, metal  Tightening torque 10 Nm	13 ... 21 9 ... 17	M25	19 00 000 5019	
		M25	19 00 000 5013	
Han® HPR EasyCon, EMC clamp, metal  Tightening torque 10 Nm	13 ... 21 9 ... 17	M25	19 00 000 5013	
		M25	19 00 000 5013	

HC-Modular

Features


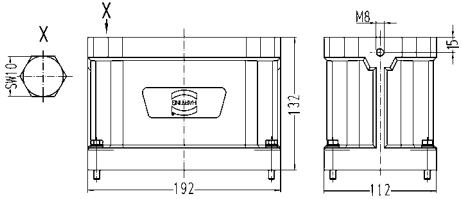

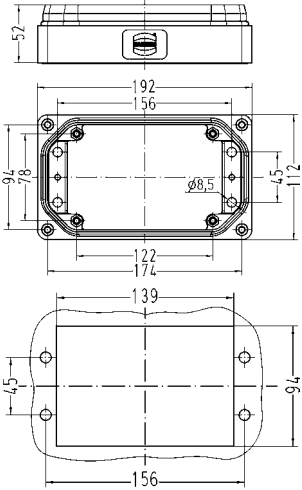

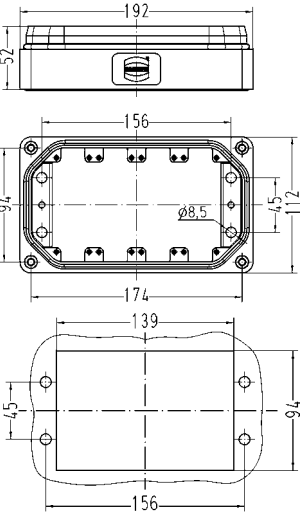
- Hoods/Housings for higher EMC requirements
- Ideal motor/drive connector for transportation sector
- Simple and quick assembly
- Secure termination, easy to control
- Vibration resistant acc. to IEC 61373 Category 1B (Category 2 possible with usage of M6 distance bolts)

Technical characteristics


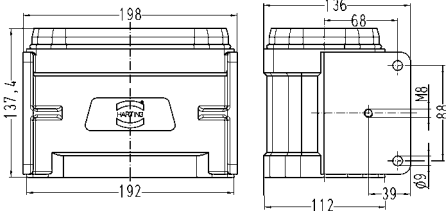

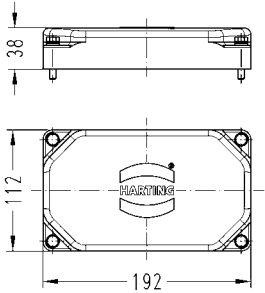

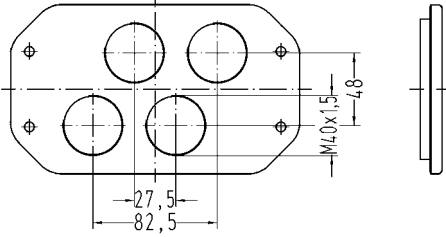

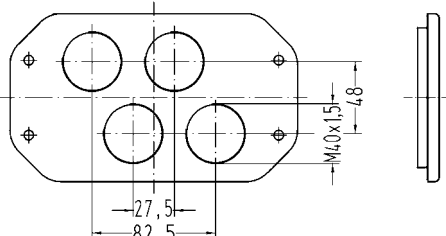
Limiting temperatures	-40 °C ... 125 °C
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP69K
Degree of protection acc. to IEC 60529	IP65 / IP68
Tightening torque (locking)	4 Nm
Corrosion resistance	ASTM B117-09 (500 h)
Material (hoods/housings)	aluminium die-cast, corrosion resistant
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	stainless steel
Material (seal)	NBR
Material (accessories)	metal

Specifications and approvals


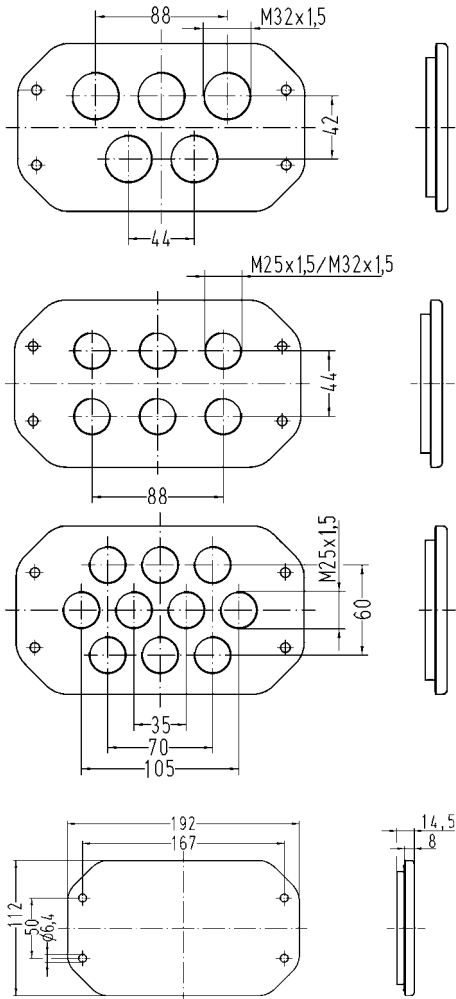

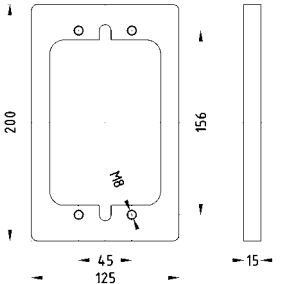



Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Hoods, screw locking</p> 		09 40 048 0451	
<p>Han® HPR, Bulkhead mounted housings, screw locking</p> 		09 40 048 0311	 <p>Panel cut out</p>
<p>Han® HPR, Bulkhead mounted housings, for 4 standard inserts - size 16B, screw locking</p> 		09 40 048 0331	 <p>Panel cut out</p>





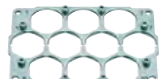

HC-
Modular

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Surface mounted housings, screw locking</p> 		09 40 048 0951	
<p>Han® HPR, Cover for housings, metal, screw locking</p> 		09 40 048 5401	
<p>Han® HPR, Cover, Distance bolt M5, for female inserts Range of delivery: 4 distance pieces, 4 x M6 screw, 4 washers</p> 	4xM40	19 40 048 9901	
<p>Han® HPR, Cover, Distance bolt M5, for male inserts Range of delivery: 4 distance pieces, 4 x M6 screw, 4 washers</p> 	4xM40	19 40 048 9801	

HC-
Modular

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Cover, Distance bolt M6</p> <p>Range of delivery: 4 distance pieces, 4 x M6 screw, 4 washers</p> 	<p>–</p> <p>5xM32 6xM25 6xM32 10xM25</p>	<p>09 40 048 9801 19 40 048 9812 19 40 048 9820 19 40 048 9822 19 40 048 9860</p>	 <p>Basic size for above mentioned covers</p>
<p>Han® HPR, Cover, Distance bolt M5</p> <p>Range of delivery: 4 distance pieces, 4 x M6 screw, 4 washers</p> 	<p>–</p>	<p>09 40 048 9803</p>	
<p>Mounting frames, 48 HPR</p> 		<p>09 40 000 9965</p>	

HC-
Modular

Identification	Part number		Drawing Dimensions in mm
	male	female	
Frame, for 4 inserts, size 16 B  suitable for hoods and surface mounted housings in conjunction with cover 09 40 048 9803/19 40 048 9801/19 40 048 9901 only	09 40 048 9912	09 40 048 9912	
Frame, for 6 x HC 350 contacts 	09 40 048 9806	09 40 048 9906	
Frame, for 4 x HC 350 contacts + PE 	09 40 048 9809	09 40 048 9909	
Frame, for 4 x HC 350 contacts + 2 x Han® Q 5/0 	09 40 048 9810	09 40 048 9910	
Frame, for 10 x HC 350 contacts 	09 40 048 9860	09 40 048 9960	
Frame, for 4 x HC 650 contacts + 2 x Han® Q 5/0 	09 40 048 9811	09 40 048 9911	

Features

- Flexible high-current interface
- Low mating forces
- Stackable due to modular design
- Suitable for HC 350 crimp contacts
- On-board removal tool
- Up to 6 contacts in a row
- Stackable up to 3 level

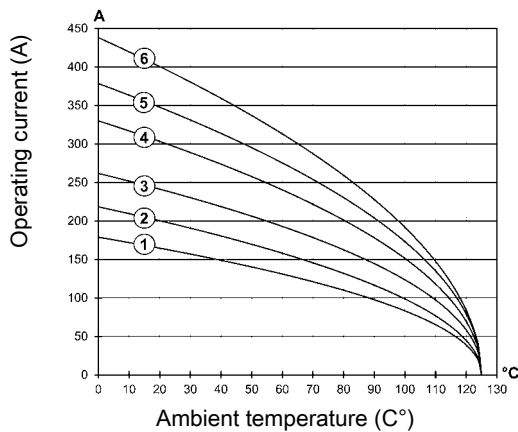
Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2

HC Individual, 3 poles



- ① Wire cross section 25 mm²
- ② Wire cross section 35 mm²
- ③ Wire cross section 50 mm²
- ④ Wire cross section 70 mm²
- ⑤ Wire cross section 95 mm²
- ⑥ Wire cross section 120 mm²

Technical characteristics

Electrical data acc. to IEC 61984	350 A 2000 V 18 kV 3
Rated current	350 A
Rated voltage	2000 V
Rated impulse voltage	18 kV
Pollution degree	3
alternative electrical data	350 A 4000 V 18 kV 2
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Flammability acc. to NFF 16 101 / 16 102	I2 / F3
Flammability acc. to EN 45 545-2:2013	HL 2 / R23 outside, HL1 / R22 inside
Degree of protection acc. to IEC 60529	IP66 (IP68 in preparation)
Vibration resistance	acc. to DIN EN 60086-2-6
Shock immunity	acc. to DIN EN 61373
Material (insert)	polyamide
Colour (insert)	black
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984


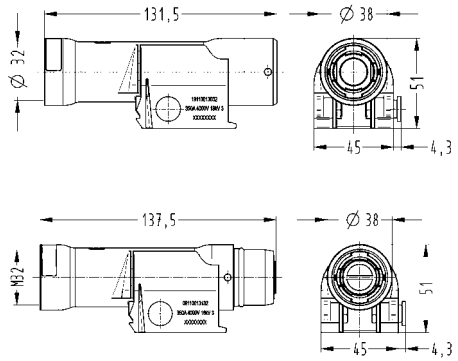

Details

Crimping tools see chapter 90


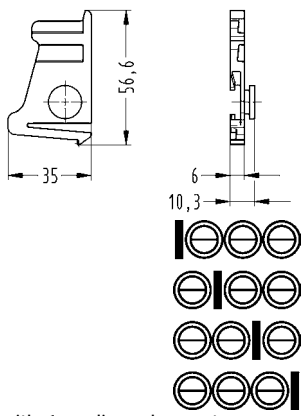



Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

2000 V
350 A

Identification	Size	Wire cross section (mm²)	Part number		Drawing Dimensions in mm																					
			male	female																						
Han® HC Individual, Crimp terminal, Carrier module 	M32		19 11 001 3032	19 11 001 3132																						
Crimp contact, TC 350, silver plated contacts, contact resistance ≤0.3 mOhm 		25 35 50 70 95 120	09 11 000 6139 09 11 000 6140 09 11 000 6141 09 11 000 6142 09 11 000 6143 09 11 000 6144	09 11 000 6239 09 11 000 6240 09 11 000 6241 09 11 000 6242 09 11 000 6243 09 11 000 6244	<table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>25 mm²</td> <td>7</td> <td>26 mm</td> </tr> <tr> <td>35 mm²</td> <td>8.2</td> <td>26 mm</td> </tr> <tr> <td>50 mm²</td> <td>10</td> <td>28 mm</td> </tr> <tr> <td>70 mm²</td> <td>11.5</td> <td>28 mm</td> </tr> <tr> <td>95 mm²</td> <td>13.5</td> <td>30 mm</td> </tr> <tr> <td>120 mm²</td> <td>15.5</td> <td>24 mm</td> </tr> </tbody> </table> <p>for stranded wire according to IEC 60 228 Class 5 Crimp zone acc. to DIN 46235</p>	Wire gauge	∅	Stripping length	25 mm²	7	26 mm	35 mm²	8.2	26 mm	50 mm²	10	28 mm	70 mm²	11.5	28 mm	95 mm²	13.5	30 mm	120 mm²	15.5	24 mm
Wire gauge	∅	Stripping length																								
25 mm²	7	26 mm																								
35 mm²	8.2	26 mm																								
50 mm²	10	28 mm																								
70 mm²	11.5	28 mm																								
95 mm²	13.5	30 mm																								
120 mm²	15.5	24 mm																								

HC-
Modular

Identification	Part number	Drawing Dimensions in mm
<p>Coding element Range of delivery: set with 2 pieces</p> 	<p>09 11 000 9987</p>	 <p>coding options with 1 coding element (3-poles set) Other coding possibilities on request</p>
<p>Han® HC Individual, Removal tool</p>	<p>09 99 000 0826</p>	
<p>Han® HC Individual, Set to create levels Range of delivery: 2 x M6 x 20 socket screw, 2 x washer SK Z6</p>	<p>09 11 000 9989</p>	
<p>Han® HC Individual, Carrier plate, aluminium, for 3x 350 A carrier modules</p>	<p>09 11 000 9991</p>	

HC-
Modular

Identification	Part number	Drawing Dimensions in mm
Han® HC Individual, Locking module, active, aluminium, stainless steel locking	09 11 000 9980	
Han® HC Individual, Locking module, passive, aluminium, stainless steel locking	09 11 000 9982	
Identification carrier module, 1 - 10 A	09 11 000 9996	
Identification carrier module, 1 - 10 B	09 11 000 9997	
Identification carrier module, 1 - 10 C	09 11 000 9998	
Identification carrier module, without description	09 11 000 9999	

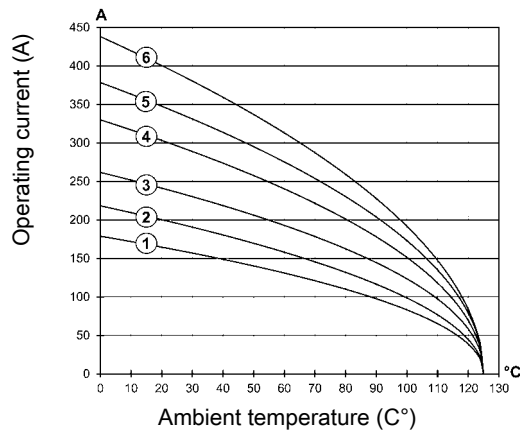
Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2

HC Individual, 3 poles



- ① Wire cross section 25 mm²
- ② Wire cross section 35 mm²
- ③ Wire cross section 50 mm²
- ④ Wire cross section 70 mm²
- ⑤ Wire cross section 95 mm²
- ⑥ Wire cross section 120 mm²


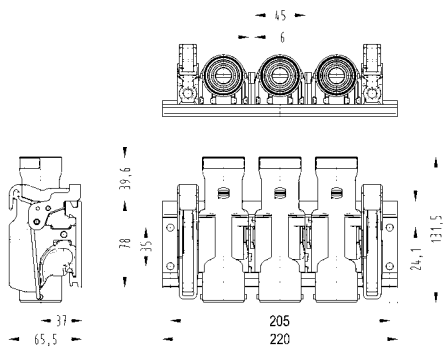

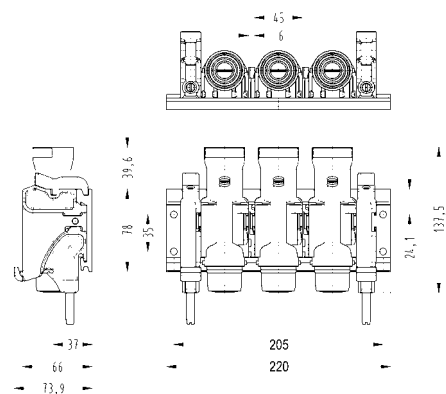
Technical characteristics

Electrical data acc. to IEC 61984	350 A 2000 V 18 kV 3
Rated current	350 A
Rated voltage	2000 V
Rated impulse voltage	18 kV
Pollution degree	3
alternative electrical data	350 A 4000 V 18 kV 2
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Flammability acc. to NFF 16 101 / 16 102	I2 / F3
Flammability acc. to EN 45 545-2:2013	HL 2 / R23 outside, HL1 / R22 inside
Degree of protection acc. to IEC 60529	IP66 (IP68 in preparation)
Vibration resistance	acc. to DIN EN 60086-2-6
Shock immunity	acc. to DIN EN 61373
Material (insert)	polyamide
Colour (insert)	black

Specifications and approvals

IEC 60664-1
IEC 61984

2000 V
350 A

Identification	Size	Part number		Drawing Dimensions in mm
		male	female	
<p>Han® HC Individual, Crimp terminal, Set, 3-poles</p> <p>Range of delivery: 3 x carrier module, 1 x carrier plate, 2 x locking module, passive</p>  <p>Please order separately: coding elements, unlocking tool, cable gland, crimp contacts and set to create levels</p>	M32	09 11 003 3032		
<p>Han® HC Individual, Crimp terminal, Set, 3-poles</p> <p>Range of delivery: 3 x carrier module, 1 x carrier plate, 2 x locking module, active</p>  <p>Please order separately: coding elements, unlocking tool, cable gland, crimp contacts and set to create levels</p>	M32		09 11 003 3132	

HC-Modular

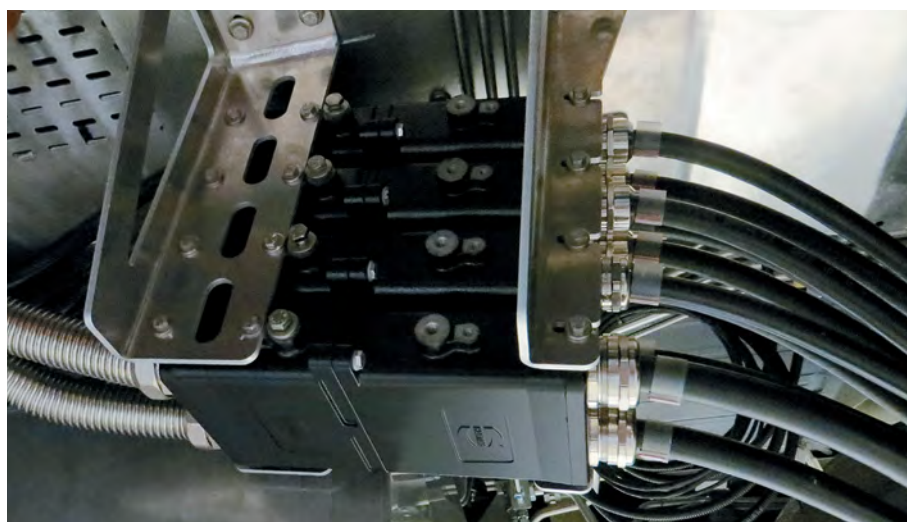
Innovative High Current Connectors for Power Transmission on Trains



Photo courtesy: Stadtwerke München, Munich

The Split hood and housing "open system" of the Han® 24HPR EasyCon with the innovative concept for shielded cables is an excellent solution for the versatile power requirements and the rapid moving operational cycle on Trains.

In use are the approved Han® HC Modular 350A and 650A Crimp-Contacts.



Contents	Page
Han-Power® S with 1x Han® Q 4/2	15.2
Han-Power® S with 2x Han® Q 4/2	15.4
Han-Power® S with 1x Han® Q 4/2 with maintenance switch	15.6
Han-Power® S with 1x Han® Q 4/2 and on/off Switch	15.8
Han-Power® S with 1x Han® Q 4/2, metal.....	15.10
Han-Power® S with 1x Han® Q 8/0	15.12
Han-Power® S with 2x Han® Q 8/0	15.14
Han-Power® T with 3x Han® Q 2/0.....	15.16
Han-Power® T with 3x Han® Q 5/0.....	15.18
Han-Power® T with 3x Han® Q 4/2.....	15.20
Han-Power® T with 3x Han-Modular® Twin	15.22
Accessories	15.24

Features

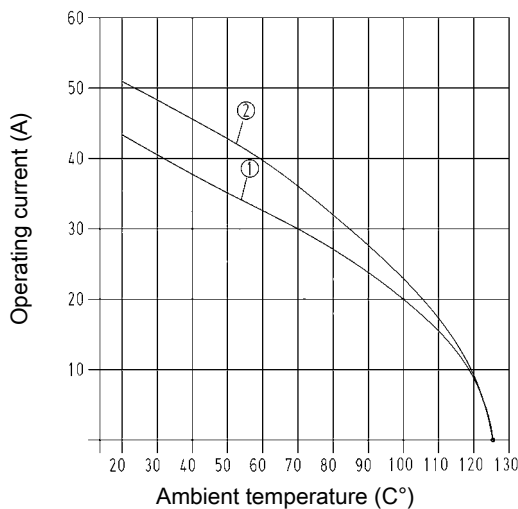
- Compact design saves space
- No interruption of the energy supply
- Leading protective ground contact within the insert
- Assembly with standard tools
- Black plastic hood, top entry
- Cable to cable hood with male insert and hood with female insert
- Cable (5x 4 mm²) pre-assembled on both sides

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han® Q 4/2 Wire cross section 4 mm²
- ② Han® Q 4/2 Wire cross section 6 mm²

Technical characteristics

Contacts	4/2
Electrical data acc. to IEC 61984	40 A 400/690 V 6 kV 3
Rated current	40 A
Rated voltage conductor - ground	400 V
Rated voltage conductor - conductor	690 V
Rated impulse voltage	6 kV
Pollution degree	3
Electrical data, signal	10 A 250 V 4 kV 3
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Rated voltage acc. to UL	600 V
Rated voltage acc. to UL, signal	250 V
Insulation resistance	≥10 ¹⁰ kOhm
Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Mating cycles	≥500
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	polycarbonate
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	polyamide
Material (seal)	NBR
Material (contact)	copper alloy

Specifications and approvals

IEC 61984
IEC 60664-1
DIN VDE 0281
IEC 60228

Details

The Han-Power® S connector is suitable for the assembly of serial power bus.

Having assembled the energy supply Han-Power® S can be inserted at any place of the power cable. The cable jacket has to be removed, the conductor is placed without interruption in the IDC.


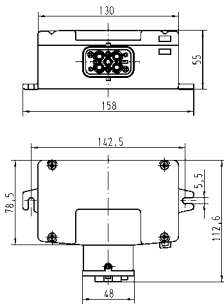
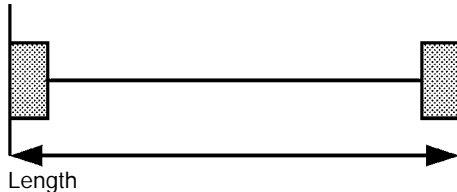
Han-Power® S is suitable for cables with single strands manufactured acc. to DIN VDE 0281/ DIN EN 60 228. For the distribution of the device Han-Compact® hoods or cable to cable housings are used.

This power supply has to be realized with one Han-Compact® cable to cable hood.

Number of contacts

4/2+

400/690 V / 250 V
40 A/10 A

Identification	Wire cross section (mm²)	Cable length	Part number	Drawing Dimensions in mm
Han-Power® S, with 1x Han® Q 4/2, moulded Han-Compact® Hoods, IDC Insulation displacement terminal, contact resistance ≤0.3 mOhm 	2.5 – 4 4 – 6		09 12 008 4804 09 12 008 4806	
System cable	4 4 4 4 4 4	1.5 m 3 m 5 m 10 m 15 m 30 m	20 88 641 1015 20 88 641 1030 20 88 641 1050 20 88 641 1100 20 88 641 1150 20 88 641 1300	

Features

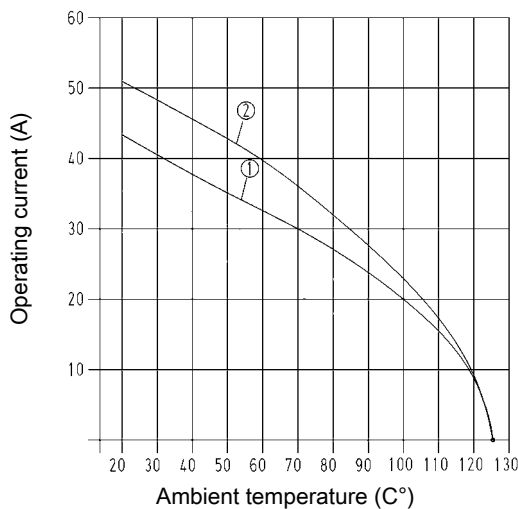
- Compact design saves space
- No interruption of the energy supply
- Leading protective ground contact within the insert
- Assembly with standard tools
- Black plastic hood, top entry
- Cable to cable hood with male insert and hood with female insert
- Cable (5x 4 mm²) pre-assembled on both sides

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han® Q 4/2 Wire cross section 4 mm²
- ② Han® Q 4/2 Wire cross section 6 mm²

Technical characteristics

Contacts	4/2
Electrical data acc. to IEC 61984	40 A 400/690 V 6 kV 3
Rated current	40 A
Rated voltage conductor - ground	400 V
Rated voltage conductor - conductor	690 V
Rated impulse voltage	6 kV
Pollution degree	3
Electrical data, signal	10 A 250 V 4 kV 3
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Rated voltage acc. to UL	600 V
Rated voltage acc. to UL, signal	250 V
Insulation resistance	≥10 ¹⁰ kOhm
Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Mating cycles	≥500
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	polycarbonate
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	polyamide
Material (seal)	NBR
Material (contact)	copper alloy

Specifications and approvals

IEC 61984
IEC 60664-1
DIN VDE 0281
IEC 60228

Details

The Han-Power® S connector is suitable for the assembly of serial power bus.

Having assembled the energy supply Han-Power® S can be inserted at any place of the power cable. The cable jacket has to be removed, the conductor is placed without interruption in the IDC.


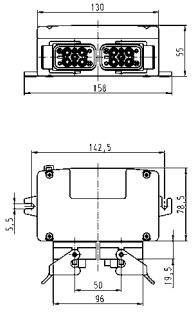
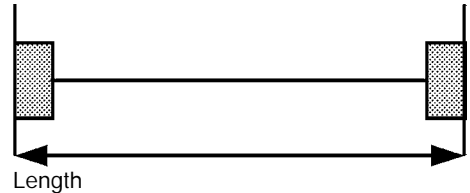
Han-Power® S is suitable for cables with single strands manufactured acc. to DIN VDE 0281/ DIN EN 60 228. For the distribution of the device Han-Compact® hoods or cable to cable housings are used.

This power supply has to be realized with one Han-Compact® cable to cable hood.

Number of contacts

4/2+

400/690 V / 250 V
40 A/10 A

Identification	Wire cross section (mm²)	Cable length	Part number	Drawing Dimensions in mm
Han-Power® S, with 2x Han® Q 4/2, Han-Compact® Housings, bulk- head mounting, IDC Insulation displacement terminal, contact resistance ≤0.3 mOhm 	4-6		09 12 008 4807	
System cable	4 4 4 4 4 4	1.5 m 3 m 5 m 10 m 15 m 30 m	20 88 641 1015 20 88 641 1030 20 88 641 1050 20 88 641 1100 20 88 641 1150 20 88 641 1300	

Features

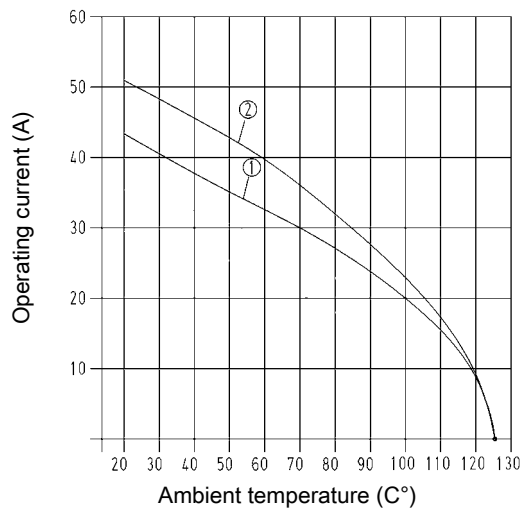
- Compact design saves space
- No interruption of the energy supply
- Leading protective ground contact within the insert
- Assembly with standard tools

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han® Q 4/2 Wire cross section 4 mm²
- ② Han® Q 4/2 Wire cross section 6 mm²

Technical characteristics

Contacts	4/2
Electrical data acc. to IEC 61984	5 A 230/400 V 4 kV 2
Rated current	5 A
Rated voltage conductor - ground	230 V
Rated voltage conductor - conductor	400 V
Rated impulse voltage	4 kV
Pollution degree	2
Electrical data, signal	10 A 250 V 4 kV 2
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	250 V
Insulation resistance	≥10 ¹⁰ kOhm
Limiting temperatures	-25 °C ... 55 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Mating cycles	≥500
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	polycarbonate
Colour (hoods/housings)	RAL 9005 (black)
Material (seal)	NBR
Material (contact)	copper alloy

Specifications and approvals

IEC 61984
IEC 60664-1

Details

The Han-Power® S connector is suitable for the assembly of serial power bus.

Having assembled the energy supply Han-Power® S can be inserted at any place of the power cable. The cable jacket has to be removed, the conductor is placed without interruption in the IDC.

Han-Power® S is suitable for cables with single strands manufactured acc. to DIN VDE 0281/ DIN EN 60 228. For the distribution of the device Han-Compact® hoods or cable to cable housings are used.

This power supply has to be realized with one Han-Compact® cable to cable hood.

Cables

Design of conductor acc. to DIN VDE 0281 / DIN EN 60 228

Wire gauge 4 mm²

- Number of single strands 56 x 0.3 mm Ø

- Outer diameter 4.2 mm

Wire gauge 6 mm²

- Number of single strands 84 x 0.3 mm Ø

- Outer diameter 4.8 mm

Technical data of switches

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 sect. 1)

for switch-disconnectors


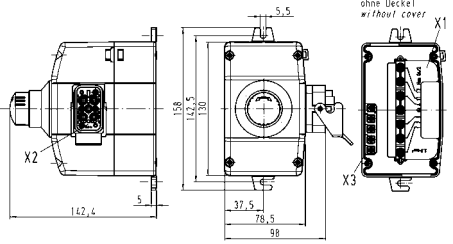
Rated voltage 250 V~ / 400 V~

Rated current 16 (10) A / 10 (5) A

Number of contacts

4/2+

230/400 V / 250 V
5 A/10 A

Identification	Wire cross section (mm ²)	Part number	Drawing Dimensions in mm
<p>Han-Power® S, with 1x Han® Q 4/2, with maintenance switch, IDC Insulation displacement terminal</p> 	<p>4-6</p>	<p>09 12 008 4620</p>	 <p>Dimensions in mm: 142.4, 5, 158, 150, 152.5, 37.5, 78.5, 98, 5.5, X1, X2, X3</p>

Features

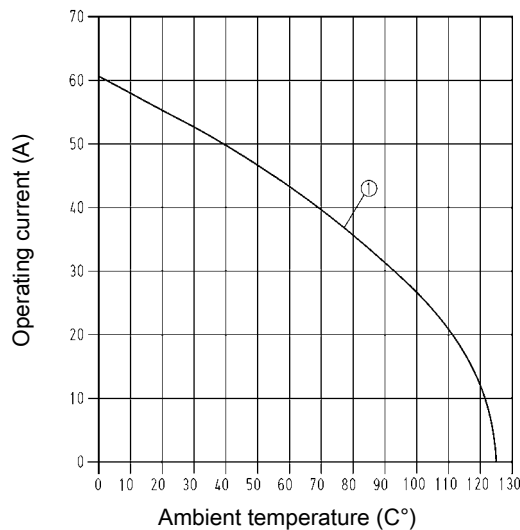
- Compact design saves space
- No interruption of the energy supply
- Leading protective ground contact within the insert
- Assembly with standard tools

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



Energy supply Wire cross section 10 mm²

Technical characteristics

Contacts	4/2
Electrical data acc. to IEC 61984	10 A 230/400 4 kV 3
Rated current	10 A
Rated voltage conductor - ground	230
Rated voltage conductor - conductor	400
Rated impulse voltage	4 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ kOhm
Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Mating cycles	≥500
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	polycarbonate
Colour (hoods/housings)	RAL 9005 (black)
Material (seal)	NBR
Material (contact)	copper alloy

Specifications and approvals

IEC 61984
IEC 60664-1

Details

The Han-Power® S connector is suitable for the assembly of serial power bus.

Having assembled the energy supply Han-Power® S can be inserted at any place of the power cable. The cable jacket has to be removed, the conductor is placed without interruption in the IDC.

Han-Power® S is suitable for cables with single strands manufactured acc. to DIN VDE 0281/ DIN EN 60 228. For the distribution of the device Han-Compact® hoods or cable to cable housings are used.

This power supply has to be realized with one Han-Compact® cable to cable hood.

Power side

Electrical data
acc. to EN 61 984

Interface to connector

10 A 230/400 V 4 kV 3
Rated current 10 A
Rated voltage conductor - ground 230 V
Rated voltage conductor - conductor 400 V
Rated impulse voltage 4 kV
Rated short-circuit current 0.5 kA
Pollution degree 3
Frequency 50 Hz

Energy bus

50 A 230/400 V 4 kV 3
Max. operating temperature -5°C ... 60°C
Degree of protection
acc. to DIN EN 60 529 IP 65

Mechanical working life ≥ 500 mating cycles

Security fixing

nach IEC 60 127-1;
nach UL 4248-1 / UL 512
nach CSA C22.2 no. 39
Rated current I_{na} 10 A
Rated voltage U_n 250 V


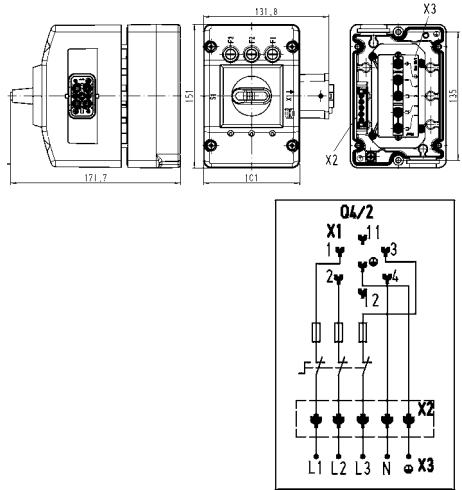
Technical data of switches

Electrical data
acc. to IEC/EN 60 947 16 A 750 V 0.5 kA
Rated current I_{na} 16 A
Rated voltage U_n 750 V
Rated short-circuit current I_{cc} 0.5 kA
Mechanical working life 10 000 operations

Number of contacts

4/2+

230/400
10 A

Identification	Wire cross section (mm ²)	Part number	Drawing Dimensions in mm
<p>Han-Power® S, with LED Display and on/off Switch, IDC Insulation displacement terminal</p> 	<p>10</p>	<p>09 12 008 4650</p>	 <p>Wiring diagram</p>

Features

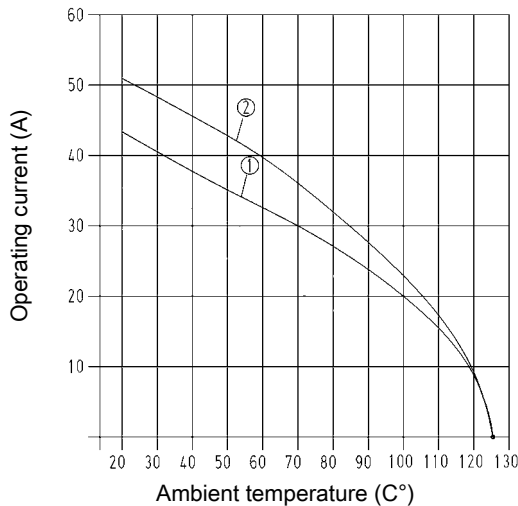
- Compact design saves space
- No interruption of the energy supply
- Leading protective ground contact within the insert
- Assembly with standard tools

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han® Q 4/2 Wire cross section 4 mm²
- ② Han® Q 4/2 Wire cross section 6 mm²

Technical characteristics

Contacts	4/2
Electrical data acc. to IEC 61984	40 A 400/690 V 6 kV 3
Rated current	40 A
Rated voltage conductor - ground	400 V
Rated voltage conductor - conductor	690 V
Rated impulse voltage	6 kV
Pollution degree	3
Electrical data, signal	10 A 250 V 4 kV 3
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Rated voltage acc. to UL	600 V
Rated voltage acc. to UL, signal	250 V
Rated voltage acc. to CSA	250 V
Insulation resistance	≥10 ¹⁰ kOhm
Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Mating cycles	≥500
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	aluminium
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 9005 (black)
Material (seal)	NBR
Material (contact)	copper alloy

Specifications and approvals

IEC 61984
IEC 60664-1

Details

The Han-Power® S connector is suitable for the assembly of serial power bus.

Having assembled the energy supply Han-Power® S can be inserted at any place of the power cable. The cable jacket has to be removed, the conductor is placed without interruption in the IDC.


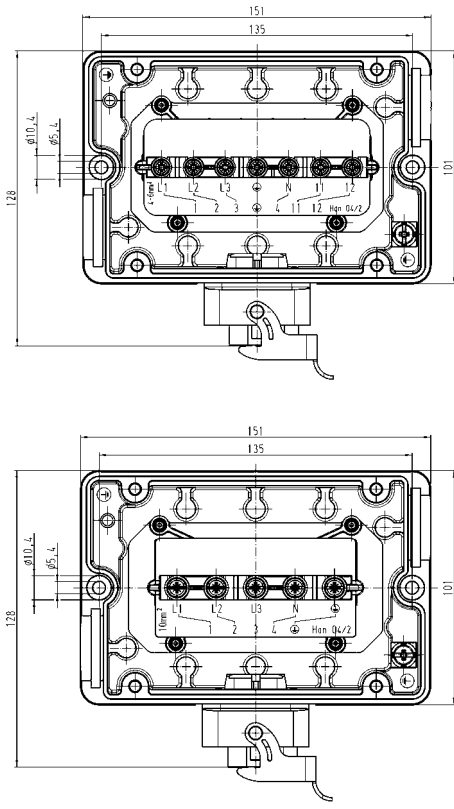
Han-Power® S is suitable for cables with single strands manufactured acc. to DIN VDE 0281/ DIN EN 60 228. For the distribution of the device Han-Compact® hoods or cable to cable housings are used.

This power supply has to be realized with one Han-Compact® cable to cable hood.

Number of contacts

4/2+

400/690 V / 250 V
40 A/10 A

Identification	Wire cross section (mm ²)	Part number	Drawing Dimensions in mm
<p>Han-Power® S, with 1x Han® Q 4/2, Han-Compact® Housings, bulkhead mounting, IDC Insulation displacement terminal, contact resistance ≤0.3 mOhm</p> 	<p>4-6 10</p>	<p>09 12 008 4901 09 12 008 4951</p>	

Han-Power

Features

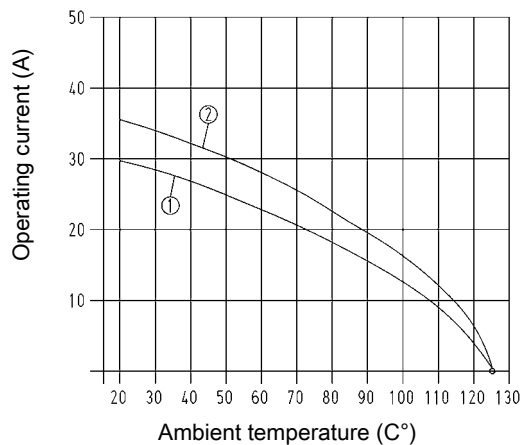
- Compact design saves space
- No interruption of the energy supply
- Leading protective ground contact within the insert
- Assembly with standard tools
- Black plastic hood, top entry
- Cable to cable hood with male insert and hood with female insert
- Cable (7x 2.5 mm²) pre-assembled on both sides

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han® Q 8/0 Wire cross section 2.5 mm²
- ② Han® Q 8/0 Wire cross section 4 mm²
- ③ Han® Q 8/0 Wire cross section 6 mm²

Technical characteristics

Contacts	8
Electrical data acc. to IEC 61984	25 A 500 V 6 kV 3
Rated current	25 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ kOhm
Limiting temperatures	-40 °C ... 125 °C
Operating temperature, unmoved	40 °C ... 80 °C
Operating temperature, moved	-15 °C ... 80 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Mating cycles	≥500
Degree of protection acc. to IEC 60529	IP65, IP65 / IP67
Material (hoods/housings)	polycarbonate
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	polyamide, fibre-glass reinforced
Material (seal)	NBR
Material (contact)	copper alloy

Specifications and approvals

IEC 61984
IEC 60664-1
DIN VDE 0281
IEC 60228

Details

The Han-Power® S connector is suitable for the assembly of serial power bus.

Having assembled the energy supply Han-Power® S can be inserted at any place of the power cable. The cable jacket has to be removed, the conductor is placed without interruption in the IDC.


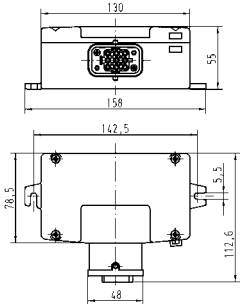
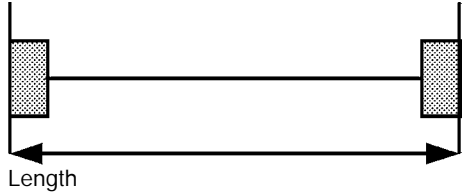
Han-Power® S is suitable for cables with single strands manufactured acc. to DIN VDE 0281/ DIN EN 60 228. For the distribution of the device Han-Compact® hoods or cable to cable housings are used.

This power supply has to be realized with one Han-Compact® cable to cable hood.

Number of contacts

8+

500 V
25 A

Identification	Wire cross section (mm²)	Cable length	Part number	Drawing Dimensions in mm
<p>Han-Power® S, with 1x Han® Q 8/0, moulded Han-Compact® Hoods, IDC Insulation displacement terminal, contact resistance ≤1 mOhm</p> 	<p>2.5 – 4 4 – 6</p>		<p>09 12 008 4801 09 12 008 4811</p>	
<p>System cable</p>	<p>2.5 2.5 2.5 2.5 2.5 2.5</p>	<p>1.5 m 3 m 5 m 10 m 15 m 30 m</p>	<p>20 88 841 0015 20 88 841 0030 20 88 841 0050 20 88 841 0100 20 88 841 0150 20 88 841 0300</p>	

Features

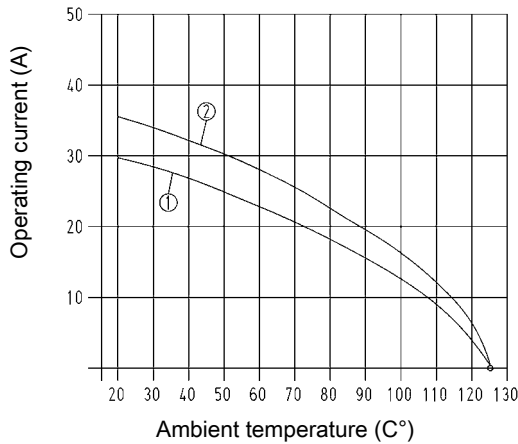
- Compact design saves space
- No interruption of the energy supply
- Leading protective ground contact within the insert
- Assembly with standard tools
- Black plastic hood, top entry
- Hood on both sides
- Cable (7x 2.5 mm²) pre-assembled on both sides

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han® Q 8/0 Wire cross section 2.5 mm²
- ② Han® Q 8/0 Wire cross section 4 mm²

Technical characteristics

Contacts	6
Electrical data acc. to IEC 61984	25 A 500 V 6 kV 3
Rated current	25 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ kOhm
Limiting temperatures	-40 °C ... 125 °C
Operating temperature, unmoved	40 °C ... 80 °C
Operating temperature, moved	-15 °C ... 80 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Mating cycles	≥500
Degree of protection acc. to IEC 60529	IP65, IP65 / IP67
Material (hoods/housings)	polycarbonate
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	polyamide
Material (seal)	NBR
Material (contact)	copper alloy

Specifications and approvals

IEC 61984
IEC 60664-1
DIN VDE 0281
IEC 60228

Details

The Han-Power® S connector is suitable for the assembly of serial power bus.

Having assembled the energy supply Han-Power® S can be inserted at any place of the power cable. The cable jacket has to be removed, the conductor is placed without interruption in the IDC.


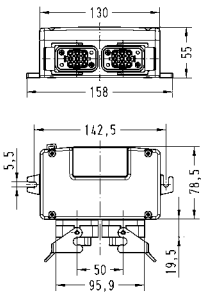
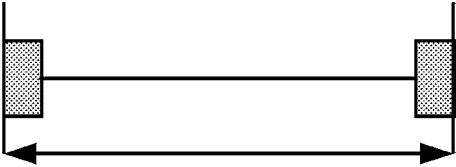
Han-Power® S is suitable for cables with single strands manufactured acc. to DIN VDE 0281/ DIN EN 60 228. For the distribution of the device Han-Compact® hoods or cable to cable housings are used.

This power supply has to be realized with one Han-Compact® cable to cable hood.

Number of contacts

6+

500 V
25 A

Identification	Wire cross section (mm ²)	Cable length	Part number	Drawing Dimensions in mm
Han-Power® S, with 2x Han® Q 8/0, Han-Compact® Housings, bulkhead mounting, IDC Insulation displacement terminal, Bulkhead mounted housings, contact resistance ≤1 mOhm 	2.5 – 4		09 12 008 4802	
System cable 3.6 mm ... 4.2 mm	2.5 2.5 2.5 2.5 2.5 2.5	1.5 m 3 m 5 m 10 m 15 m 30 m	20 88 821 0015 20 88 821 0030 20 88 821 0050 20 88 821 0100 20 88 821 0150 20 88 821 0300	 Length

Features

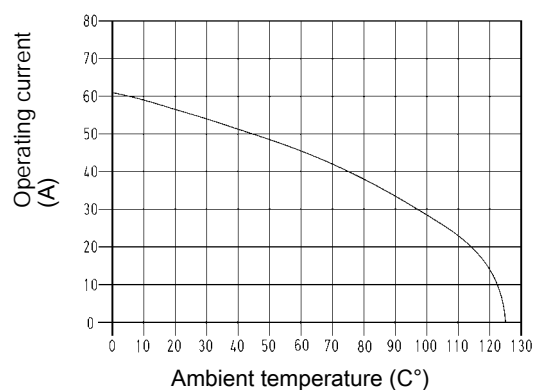
- Per 1 connection for power input, power output and to device
- 2 power contacts
- Plastic housings are integrated in the moulding

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



Wire cross section 6 mm²

Technical characteristics

Contacts	2
Electrical data acc. to IEC 61984	40 A 400 V 6 kV 3
Rated current	40 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Flammability (hoods/housings) acc. to UL 94	V 0
Mating cycles	≥500
Degree of protection acc. to IEC 60529	IP65 / IP67
Material (hoods/housings)	polyamide
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	polyamide
Material (seal)	NBR
Material (contact)	copper alloy

Specifications and approvals

IEC 61984
IEC 60664-1

Number of contacts

2+

400 V
40 A

Identification

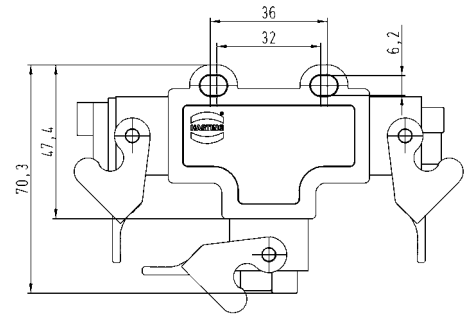
Han-Power® T,
with 3x Han® Q 2/0,
in Han® 3 A Housings, bulkhead mounting,
contact resistance ≤ 1 mOhm



Part number

09 12 008 4752

Drawing
Dimensions in mm



Features

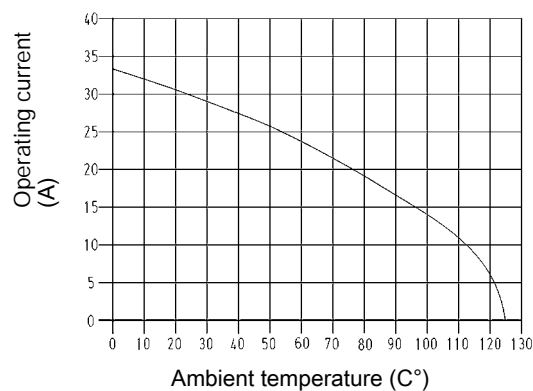
- Per 1 connection for power input, power output and to device
- 4 power contacts
- Plastic housings are integrated in the moulding

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



Wire cross section 2.5 mm²

Technical characteristics

Contacts	5
Electrical data acc. to IEC 61984	16 A 230/400 V 4 kV 3
Rated current	16 A
Rated voltage conductor - ground	230 V
Rated voltage conductor - conductor	400 V
Rated impulse voltage	4 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Flammability (hoods/housings) acc. to UL 94	V 0
Mating cycles	≥500
Degree of protection acc. to IEC 60529	IP65 / IP67
Material (hoods/housings)	polyamide
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	polyamide
Material (seal)	NBR
Material (contact)	copper alloy

Specifications and approvals

IEC 61984
IEC 60664-1

Number of contacts

5+

230/400 V
16 A

Identification

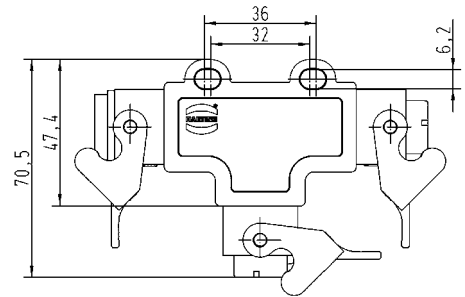
Han-Power® T,
with 3x Han® Q 5/0,
in Han® 3 A Housings, bulkhead mounting,
contact resistance ≤ 1 mOhm



Part number

09 12 008 4751

Drawing
Dimensions in mm



Features

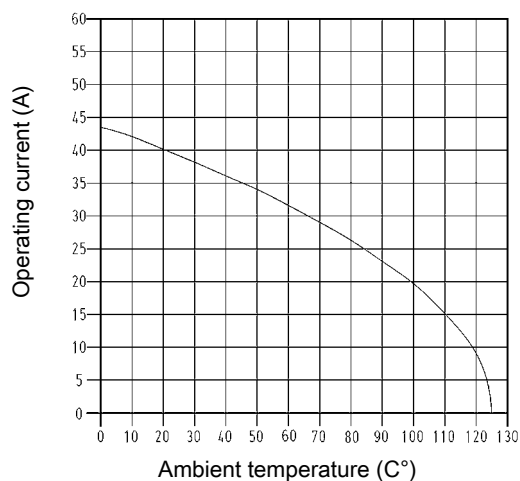
- Per 1 connection for power input, power output and to device
- Finger safe male and female contacts
- 4 power contacts
- 2 signal contacts
- Hoods/Housings, metal

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



Wire cross section 4 mm²

Technical characteristics

Contacts	4/2
Electrical data acc. to IEC 61984	40 A 400/690 V 6 kV 3
Rated current	40 A
Rated voltage conductor - ground	400 V
Rated voltage conductor - conductor	690 V
Rated impulse voltage	6 kV
Pollution degree	3
Electrical data, signal	10 A 250 V 4 kV 3
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Rated voltage acc. to UL	600 V
Rated voltage acc. to UL, signal	250 V
Rated voltage acc. to CSA	250 V
Insulation resistance	≥10 ¹⁰ Ohm
Flammability (hoods/housings) acc. to UL 94	V 0
Mating cycles	≥500
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	zinc die-cast
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	stainless steel
Material (seal)	NBR
Material (contact)	copper alloy

Specifications and approvals

IEC 61984
IEC 60664-1

Number of contacts

4/2+

400/690 V / 250 V
40 A/10 A

Identification

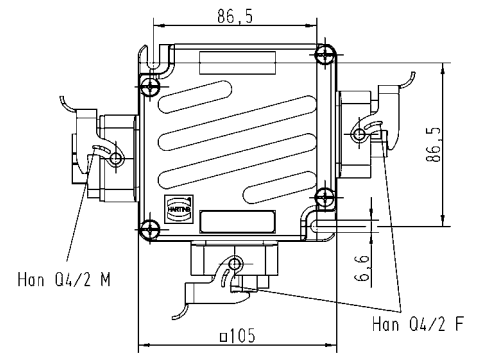
Han-Power® T,
with 3x Han® Q 4/2,
in Han-Compact® Housings, bulkhead mounting,
contact resistance ≤ 0.3 mOhm



Part number

09 12 008 4720

Drawing
Dimensions in mm



Features

- 1 connection for power input and power output each
- 1 T-connection to device
- 3 power contacts
- 4 signal contacts
- Hoods/Housings, metal
- Han-Easy Lock®

Technical characteristics

Contacts	3/4
Electrical data acc. to IEC 61984	40 A 400/690 V 6 kV 3
Rated current	40 A
Rated voltage conductor - ground	400 V
Rated voltage conductor - conductor	690 V
Rated impulse voltage	6 kV
Pollution degree	3
Electrical data, signal	16 A 400 V 6 kV 3
Rated current	16 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Flammability (hoods/housings) acc. to UL 94	V 0
Mating cycles	≥500
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	zinc die-cast
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 7037 (grey)
Material (locking lever)	polycarbonate + stainless steel
Material (seal)	NBR
Material (contact)	copper alloy


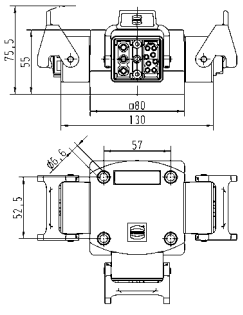
Specifications and approvals

IEC 61984
IEC 60664-1

Number of contacts

3/4

400/690 V / 400 V
40 A/16 A

Identification	Part number	Drawing Dimensions in mm
<p>Han-Modular® Twin, with 3x Han-Modular® Twin, Bulkhead mounted housings</p> 	<p>09 12 008 4760</p>	

Technical characteristics

Material (accessories) NBR

Identification	Part number	Drawing Dimensions in mm
Han-Power® S, Grommet 7 mm ... 10 mm	09 12 000 9969	
Han-Power® S, Grommet 10 mm ... 13 mm	09 12 000 9970	
Han-Power® S, Grommet 13 mm ... 16 mm	09 12 000 9971	
Han-Power® S, Grommet 16 mm ... 19 mm	09 12 000 9972	
Han-Power® S, Grommet 19 mm ... 22 mm	09 12 000 9973	
Blind grommet	09 12 000 9974	

Han-Power

Contents	Page
Han D® HMC.....	16.3
Han DD® HMC	16.6
Contacts Han D/DD® HMC	16.11
Han E® HMC.....	16.12
Han® EEE HMC.....	16.17
Contacts Han E® HMC / Han® EEE HMC	16.20
Han-Modular® Hinged frames.....	16.21
Han-Modular® Docking frames	16.26
Han E® module	16.30
Han E® Protected module.....	16.32
Han® EE module.....	16.34
Han® EEE module	16.36
Han DD® module	16.38
Han® DDD module.....	16.40
Han® HMC hoods/housings	16.42
Docking frame	16.50

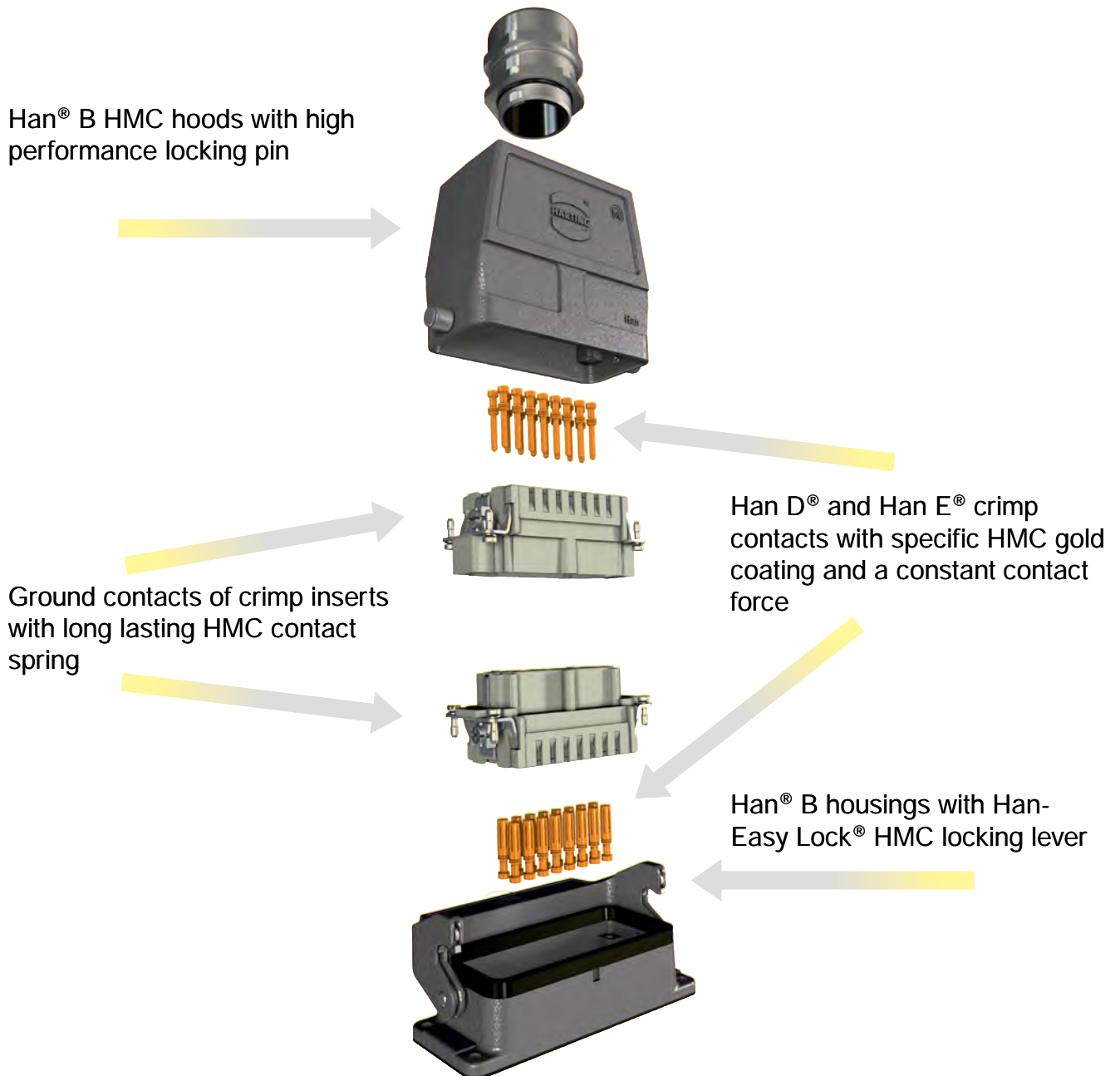
Features

This series Han® HMC (High Mating Cycles) is a connector series specifically aiming at industrial applications for 10,000 mating cycles.

Benefits:

- High mechanical robustness
- Simple and easy understandable design
- Optimized concept for signal and power transmission
- Low mating and unmating forces
- High contact density

General Description



Han HMC

Features

- High density of contacts
- Time saving rapid termination by use of crimping contacts
- For requirements up to 250 V / 10 A
- Suitable for hoods/housings of series Han[®] B HMC
- Contacts available with special HMC gold plating for 10,000 mating cycles

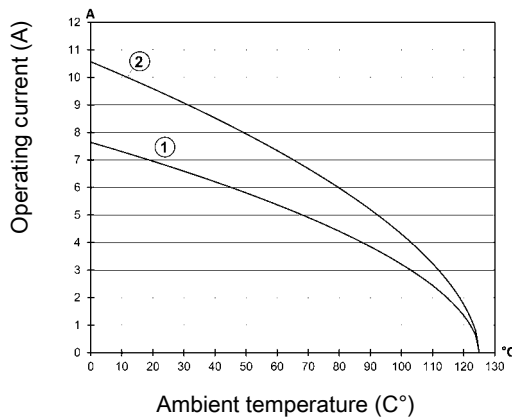
Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2

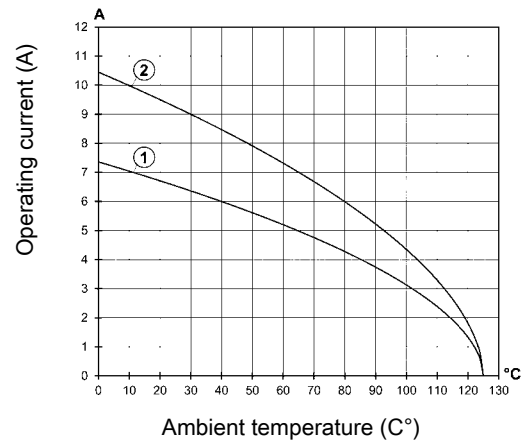
Han[®] 40 D HMC



- ① 0.75 mm²
- ② 1.5 mm²

Derating

Han[®] 64 D HMC



- ① 0.75 mm²
- ② 1.5 mm²

Technical characteristics

Contacts	40, 64
Electrical data acc. to IEC 61984	10 A 250 V 4 kV 3
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles with HMC contacts	≥10000
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals


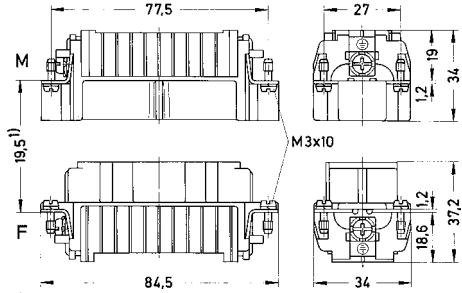
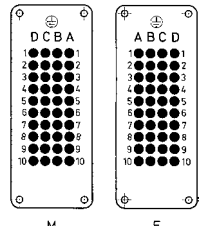
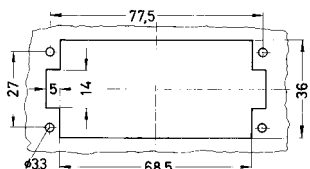
IEC 60664-1
IEC 61984
EN 175301-801



Number of contacts

40+

250 V
10 A


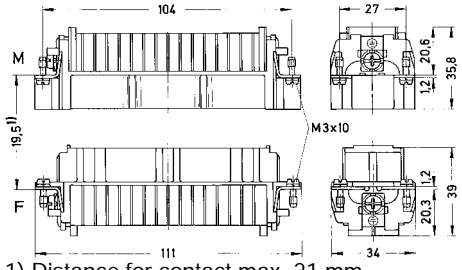
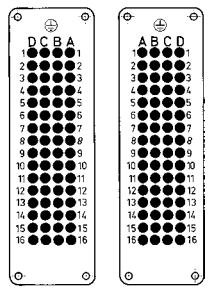
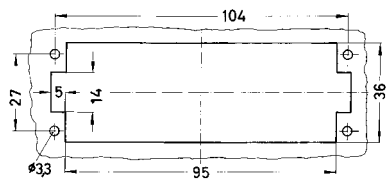
Identification	Part number		Drawing Dimensions in mm
	male	female	
Han D [®] HMC, Crimp terminal  <p>Please order crimp contacts separately.</p>	09 21 240 3001	09 21 240 3101	 <p>1) Distance for contact max. 21 mm</p>  <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Han
HMC

Number of contacts

64+

250 V
10 A

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han D® HMC, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>	<p>09 21 264 3001</p>	<p>09 21 264 3101</p>	 <p>1) Distance for contact max. 21 mm</p>  <p>16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1</p> <p>M F</p> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Features

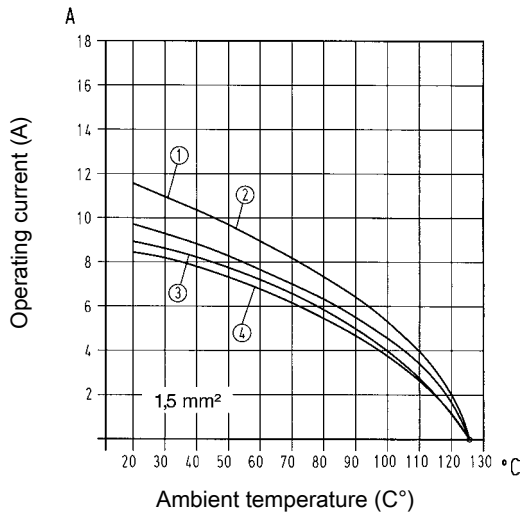
- High density of contacts
- Time saving rapid termination by use of crimping contacts
- For requirements up to 250 V / 10 A
- Suitable for hoods/housings of series Han[®] B HMC
- Contacts available with special HMC gold plating for 10,000 mating cycles

Derating

Current carrying capacity

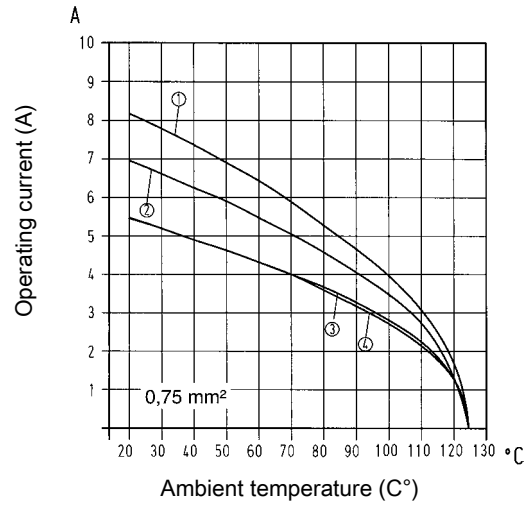
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han[®] 24 DD HMC
- ② Han[®] 42 DD HMC
- ③ Han[®] 72 DD HMC
- ④ Han[®] 108 DD HMC

Derating



- ① Han[®] 24 DD HMC
- ② Han[®] 42 DD HMC
- ③ Han[®] 72 DD HMC
- ④ Han[®] 108 DD HMC

Technical characteristics

Contacts	24, 42, 72, 108
Electrical data acc. to IEC 61984	10 A 250 V 4 kV 3
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles with HMC contacts	≥10000
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals


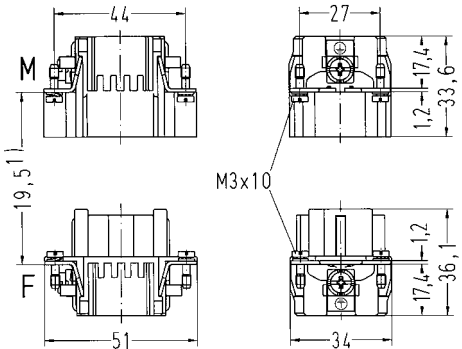
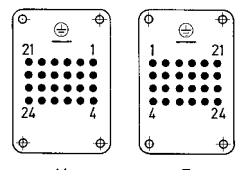
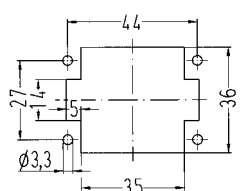
IEC 60664-1
IEC 61984



Number of contacts

24+


250 V
10 A

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han DD® HMC, Crimp terminal</p>  <p>Please order crimp contacts separately. Only with Han® Docking frame.</p>	<p>09 16 224 3001</p>	<p>09 16 224 3101</p>	 <p>1) Distance for contact max. 21 mm</p>  <p> M F </p> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out for inserts for use without hoods/housings</p>


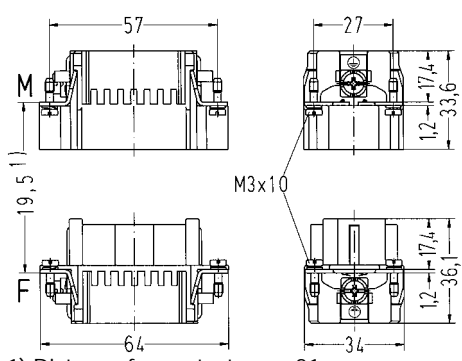
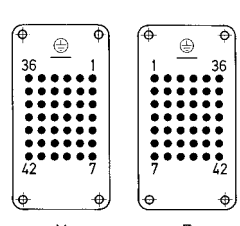
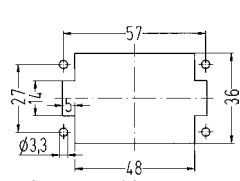
Han
HMC

Number of contacts

42+



250 V
10 A


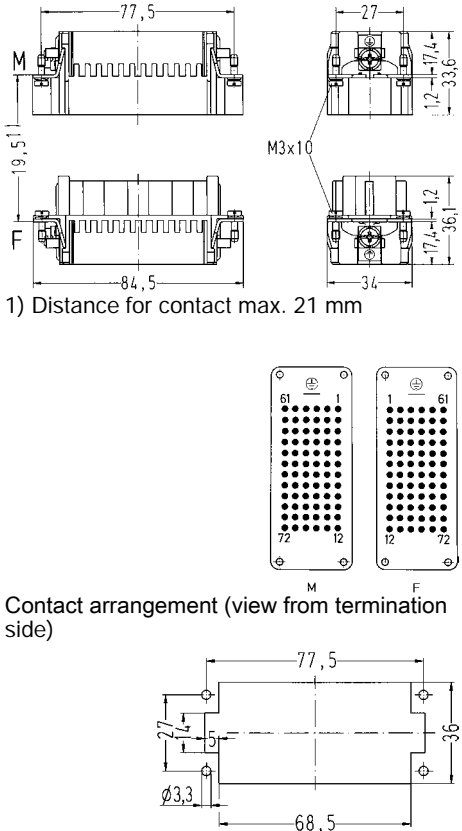
Identification	Part number		Drawing Dimensions in mm
	male	female	
Han DD [®] HMC, Crimp terminal  <p>Please order crimp contacts separately.</p>	09 16 242 3001	09 16 242 3101	 <p>1) Distance for contact max. 21 mm</p>  <p> M F Contact arrangement (view from termination side) </p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Han
HMC

Number of contacts

72+


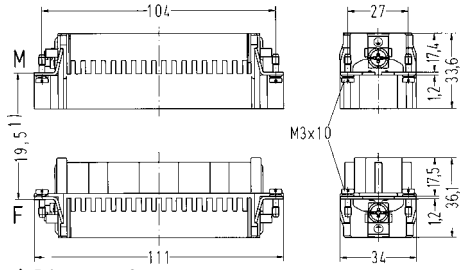
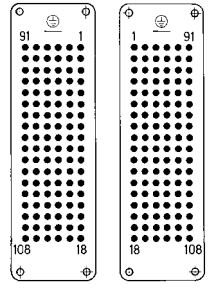
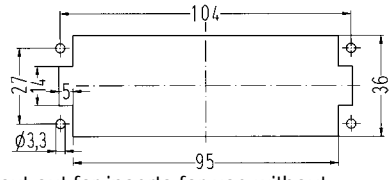
250 V
10 A

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han DD® HMC, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>	<p>09 16 272 3001</p>	<p>09 16 272 3101</p>	 <p>1) Distance for contact max. 21 mm</p> <p>Panel cut out for inserts for use without hoods/housings</p>

Number of contacts

108+

250 V
10 A

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han DD[®] HMC, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>	<p>09 16 208 3001</p>	<p>09 16 208 3101</p>	 <p>1) Distance for contact max. 21 mm</p>  <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out for inserts for use without hoods/housings</p>

Han
HMC

Technical characteristics

Material (contact) copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984

Details


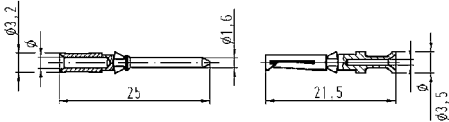

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Coding pin

Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert.

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																					
		male	female																						
Han D [®] HMC, Crimp contact, HMC gold plated contacts, contact resistance ≤3 mOhm 	0.14 – 0.37	09 15 200 6124	09 15 200 6224	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>Ø</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	Ø	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
	Wire gauge	Ø	Stripping length																						
	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																						
	0.5 mm ² AWG 20	1.1 mm	8 mm																						
	0.75 mm ² AWG 18	1.3 mm	8 mm																						
	1 mm ² AWG 18	1.45 mm	8 mm																						
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							
0.5	09 15 200 6123	09 15 200 6223																							
0.75	09 15 200 6125	09 15 200 6225																							
1	09 15 200 6122	09 15 200 6222																							
1.5	09 15 200 6121	09 15 200 6221																							
2.5	09 15 200 6126	09 15 200 6226																							
Han D [®] , Han DD [®] , Coding pin, plastic  only for crimp termination with loss of one contact			09 33 000 9915																						

Features

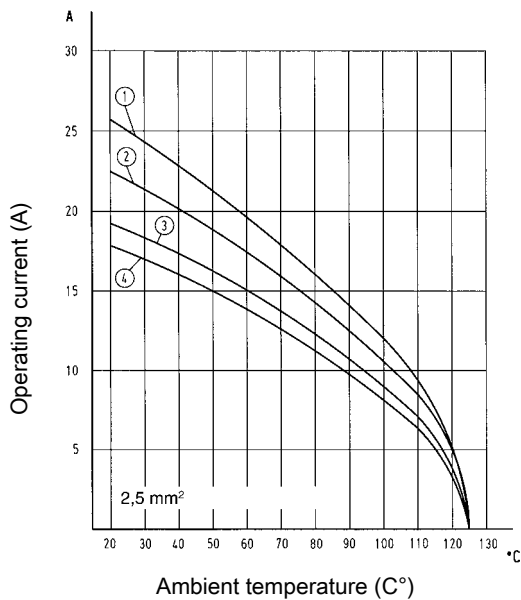
- Time saving rapid termination by use of crimping contacts
- Suitable for hoods/housings of series Han[®] B HMC
- Contacts available with special HMC gold plating for 10,000 mating cycles

Derating

Current carrying capacity

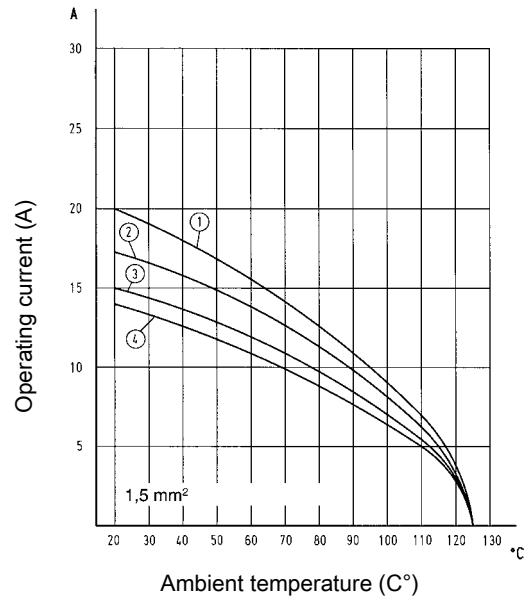
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Han[®] 6 E HMC
- ② Han[®] 10 E HMC
- ③ Han[®] 16 E HMC
- ④ Han[®] 24 E HMC

Derating



- ① Han[®] 6 E HMC
- ② Han[®] 10 E HMC
- ③ Han[®] 16 E HMC
- ④ Han[®] 24 E HMC

Technical characteristics

Contacts	6, 10, 16, 24
Electrical data acc. to IEC 61984	16 A 500 V 6 kV 3
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles with HMC contacts	≥10000
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals


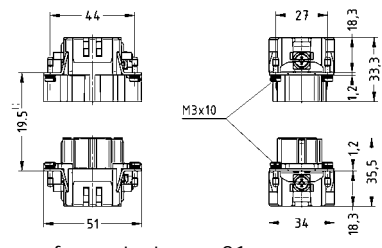
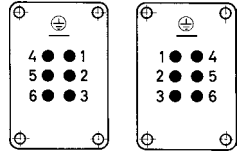
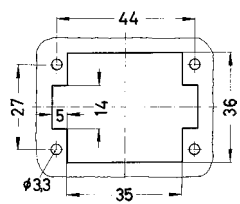
IEC 60664-1
IEC 61984



Number of contacts

6+

500 V
16 A


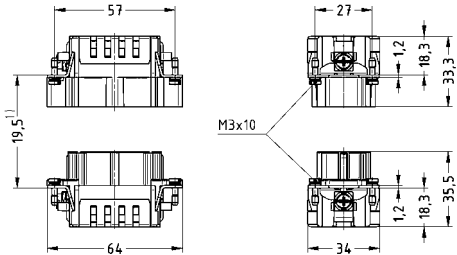
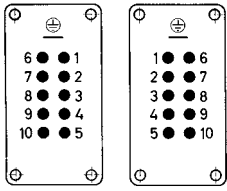
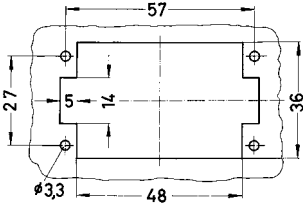
Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han E[®] HMC, Crimp terminal</p>  <p>Please order crimp contacts separately. Only with Han[®] Docking frame.</p>	<p>09 33 206 2602</p>	<p>09 33 206 2702</p>	 <p>1) Distance for contact max. 21 mm</p>  <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>

Han
HMC

Number of contacts

10+

500 V
16 A

Identification	Part number		Drawing Dimensions in mm
	male	female	
Han E [®] HMC, Crimp terminal  Please order crimp contacts separately.	09 33 210 2602	09 33 210 2702	 <p>1) Distance for contact max. 21 mm</p>  <p style="text-align: center;">M F</p> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>

Han
HMC

Number of contacts

16+

500 V
16 A

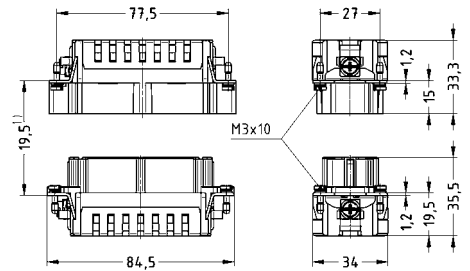
Identification	Part number		Drawing Dimensions in mm
	male	female	

Han E® HMC,
Crimp terminal

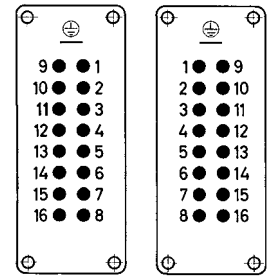


Please order crimp contacts separately.

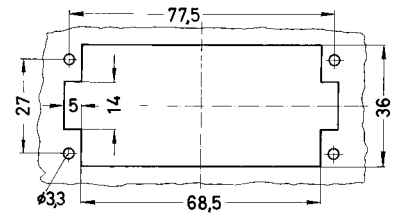
09 33 216 2602 09 33 216 2702



1) Distance for contact max. 21 mm



Contact arrangement (view from termination side)




Panel cut out

Han
HMC

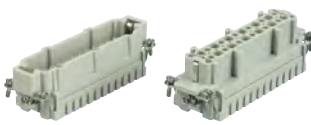
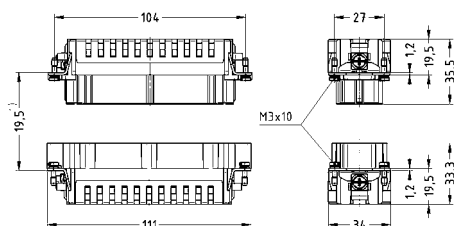
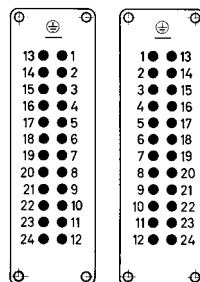
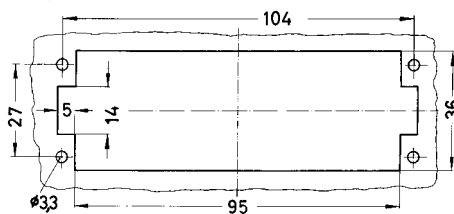


Number of contacts

24+



500 V
16 A

Identification	Part number		Drawing Dimensions in mm
	male	female	
Han E [®] HMC, Crimp terminal  Please order crimp contacts separately.	09 33 224 2602	09 33 224 2702	 <p>1) Distance for contact max. 21 mm</p>  <p> M F </p> <p> Contact arrangement (view from termination side) </p>  <p>Panel cut out</p>

Han
HMC

Features

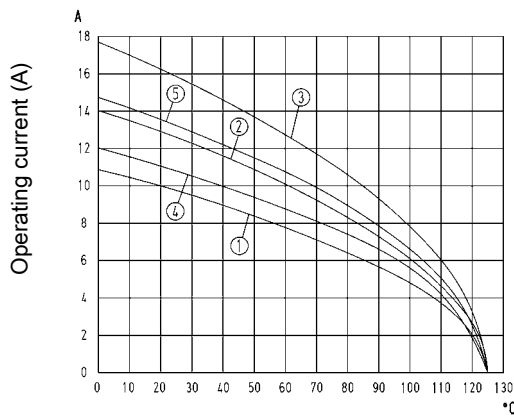
- Time saving rapid termination by use of crimping contacts
- Coded insert
- Suitable for hoods/housings of series Han® B HMC
- Contacts available with special HMC gold plating for 10,000 mating cycles

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



Ambient temperature (C°)

- ① Han® 64 EEE HMC 1.5 mm²
- ② Han® 64 EEE HMC 2.5 mm²
- ③ Han® 64 EEE HMC 4 mm²
- ④ Han® 40 EEE HMC 1.5 mm²
- ⑤ Han® 40 EEE HMC 2.5 mm²

Technical characteristics

Contacts	40, 64
Electrical data acc. to IEC 61984	16 A 500 V 6 kV 3
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles with HMC contacts	≥10000
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals

IEC 60664-1
IEC 61984

Number of contacts

40+

500 V
16 A

Identification	Part number		Drawing Dimensions in mm
	male	female	

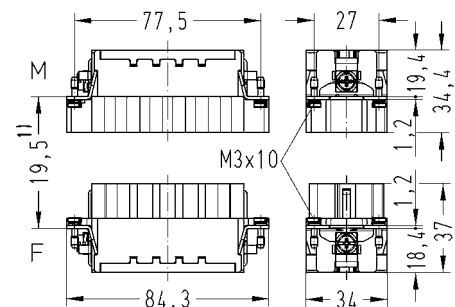
Han® EEE HMC,
Crimp terminal



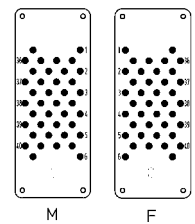
Please order crimp contacts separately.

09 32 240 3001

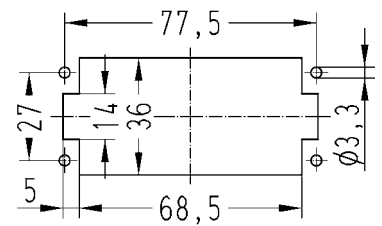
09 32 240 3101



1) Distance for contact max. 21 mm



Contact arrangement (view from termination side)


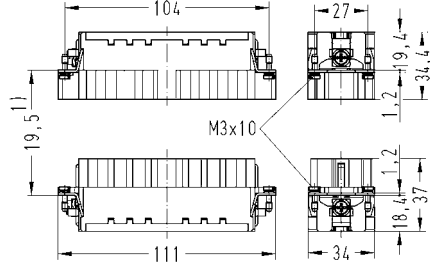
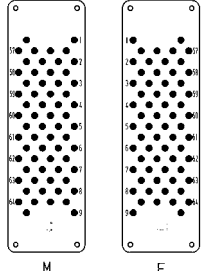
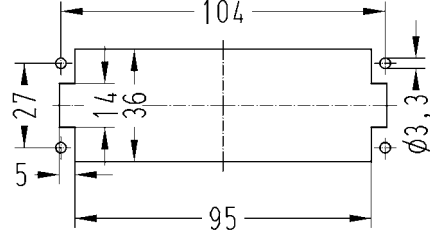


Panel cut out

Number of contacts

64+

500 V
16 A

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han® EEE HMC, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>	<p>09 32 264 3001</p>	<p>09 32 264 3101</p>	 <p>1) Distance for contact max. 21 mm</p>  <p> Contact arrangement (view from termination side) </p>  <p>Panel cut out</p>



Technical characteristics

Material (contact) copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984

Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

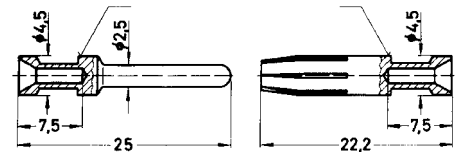
Coding pin

Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert.

Identification	Wire cross section (mm ²)	Part number	
		male	female
Han E [®] HMC, Crimp contact, HMC gold plated contacts, contact resistance ≤1 mOhm	0.14–0.37	09 33 200 6117	09 33 200 6217
	0.5	09 33 200 6122	09 33 200 6222
	0.75	09 33 200 6115	09 33 200 6215
	1	09 33 200 6118	09 33 200 6218
	1.5	09 33 200 6116	09 33 200 6216
	2.5	09 33 200 6123	09 33 200 6223
	4	09 33 200 6119	09 33 200 6221

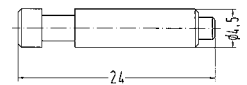


Drawing
Dimensions in mm



Identification	Wire gauge	Stripping length
no groove	0.14–0.37 mm ² AWG 26–22	7.5 mm
no groove	0.5 mm ² AWG 20	7.5 mm
1 groove*	0.75 mm ² AWG 18	7.5 mm
1 groove	1 mm ² AWG 18	7.5 mm
2 grooves	1.5 mm ² AWG 18	7.5 mm
3 grooves	2.5 mm ² AWG 14	7.5 mm
wide groove	3 mm ² AWG 12	7.5 mm
no groove	4 mm ² AWG 12	7.5 mm

* on the back crimp collar



Han E [®] , Han [®] EE, Han [®] EEE, Coding pin, plastic	09 33 000 9954
for crimp inserts only	



Han
HMC

Features

- Pre-leading grounding system according VDE
- Modules can only be assembled polarized
- Alphabetical marking of module position
- High mechanical reliability of modules in case of vibration and impact stress
- No tools necessary to remove modules
- Hinged frames can be used either in hood or housing

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Mating cycles with HMC connectors	≥10000
Material (hoods/housings)	zinc die-cast

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Both different markings must be used for one connector!

Locking element 09 14 000 9960 see accessories in chapter 06

Wire gauge PE (power side) 4 ... 10 mm²

10 mm² only with ferrule crimp tool 09 99 000 0374 (see chapter 90)

Wire gauge PE (signal side) 1 ... 2.5 mm²



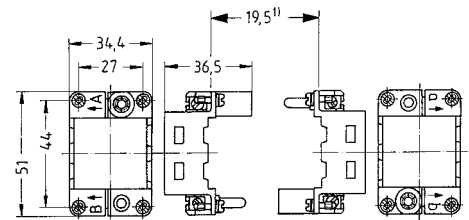
Identification

Part number

**Drawing
Dimensions in mm**

Han-Modular®,
Hinged frame HMC,
for 2 modules,
A ... B

09 14 206 0303



1) Distance max. 20.5 mm

Only with Han® Docking frame.

Han-Modular®,
Hinged frame HMC,
for 2 modules,
a ... b

09 14 206 0313



Only with Han® Docking frame.



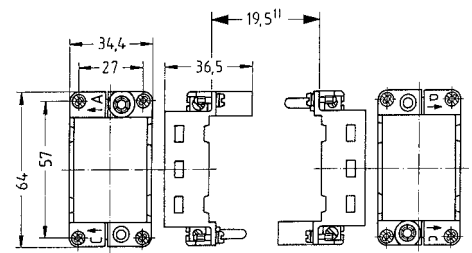
Identification

Part number

Drawing
Dimensions in mm

Han-Modular®,
Hinged frame HMC,
for 3 modules,
A ... C

09 14 210 0303



1) Distance max. 20.5 mm

Han-Modular®,
Hinged frame HMC,
for 3 modules,
a ... c

09 14 210 0313





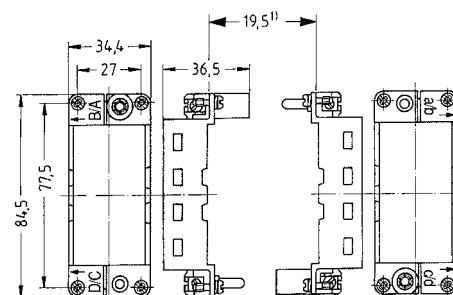
Identification

Part number

Drawing
Dimensions in mm

Han-Modular®,
Hinged frame HMC,
for 4 modules,
A ... D

09 14 216 0303




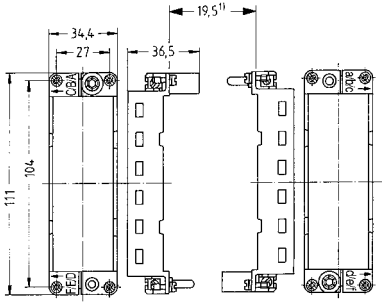

1) Distance max. 20.5 mm

Han-Modular®,
Hinged frame HMC,
for 4 modules,
a ... d

09 14 216 0313





Identification	Part number	Drawing Dimensions in mm
<p>Han-Modular®, Hinged frame HMC, for 6 modules, A ... F</p> 	<p>09 14 224 0303</p>	 <p>1) Distance max. 20.5 mm</p>
<p>Han-Modular®, Hinged frame HMC, for 6 modules, a ... f</p> 	<p>09 14 224 0313</p>	

Features

- Blind mating connector system for drawer systems
- Direct panel mounting without housing
- Very robust design
- Solid pre-leading guide pins and float bushes
- Can be fixed with standard M4 screws
- Suitable for Han-Modular® modules

Technical characteristics


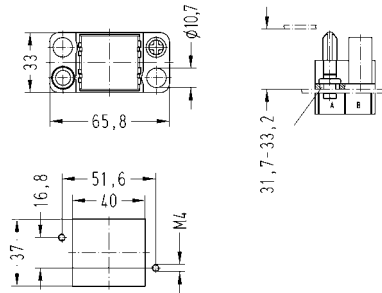

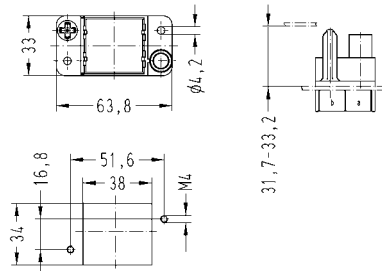

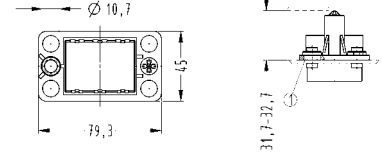

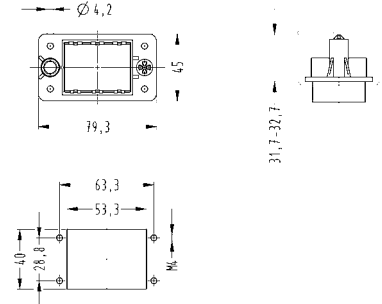
Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Mating cycles	≥500
Mating cycles with HMC connectors	≥10000
Degree of protection acc. to IEC 60529	IP20
Material (accessories)	polycarbonate
Tolerance	±2 mm
Lock-in range	±4 mm

Specifications and approvals

IEC 60664-1
IEC 61984


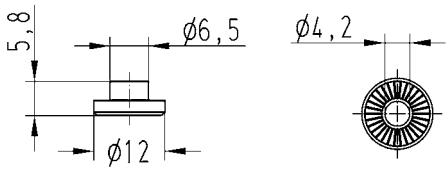
Details

Due the plastic material used in the docking frame without PE, the panel will need to be grounded separately.

Identification	Part number	Drawing Dimensions in mm
Han-Modular®, Docking frame, float mount, for 2 modules, A ... B	09 14 006 1701	  <p>① floating tolerance ± 2 mm Panel cut out</p>
Han-Modular®, Docking frame, fixed, for 2 modules, a ... b	09 14 006 1711	  <p>Panel cut out</p>
Han-Modular®, Docking frame, float mount, for 3 modules, A ... C	09 14 010 1701	  <p>① floating tolerance ± 2 mm</p>
Han-Modular®, Docking frame, fixed, for 3 modules, a ... c	09 14 010 1711	  <p>Panel cut out</p>

Identification	Part number	Drawing Dimensions in mm
Han-Modular®, Docking frame, float mount, for 4 modules, A ... D	09 14 016 1701	<p>① floating tolerance ± 2 mm</p> <p>Panel cut out</p>
Han-Modular®, Docking frame, fixed, for 4 modules, a ... d	09 14 016 1711	<p>Panel cut out</p>
Han-Modular®, Docking frame, float mount, for 6 modules, A ... F	09 14 024 1701	<p>① floating tolerance ± 2 mm</p> <p>Panel cut out</p>
Han-Modular®, Docking frame, fixed, for 6 modules, a ... f	09 14 024 1711	<p>Panel cut out</p>

Han
HMC

Identification	Part number	Drawing Dimensions in mm
<p>Han-Modular®, Float washer, zinc die-cast</p>  <p>to enable the frame to be float mounted using standard M4 fixing screws</p>	<p>09 14 000 9936</p>	

Features

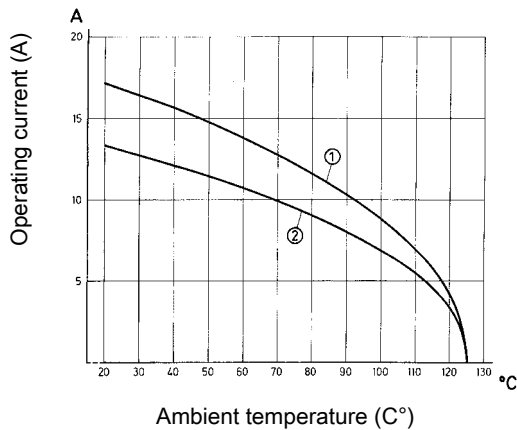
- Standard module for power up to 16 A

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① 24 B hoods/housings with 6 modules Wire cross section 2.5 mm²
- ② 24 B hoods/housings with 6 modules Wire cross section 1.5 mm²

Technical characteristics

Contacts	6
Electrical data acc. to IEC 61984	16 A 500 V 6 kV 3
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Mating cycles with HMC contacts	≥10000
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique


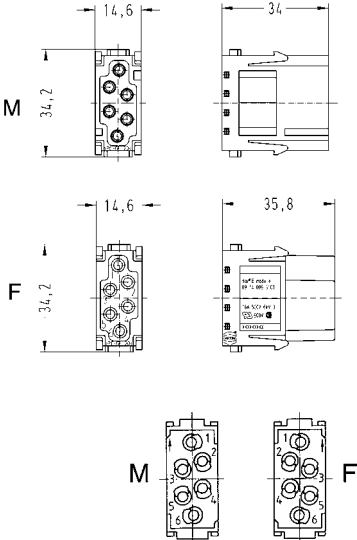

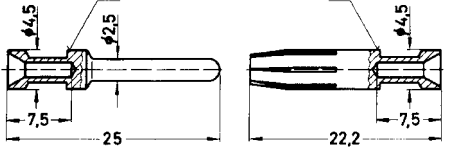
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Designed for 10,000 mating cycles (only with Han E® HMC crimp contacts, Han-Modular® Docking frame and Han-Modular® Hinged frame HMC)

Number of contacts

6+

500 V
16 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																											
		male	female																												
Han-Modular [®] , Han E [®] module, Crimp terminal  Please order crimp contacts separately.		09 14 006 3001	09 14 006 3101	 Contact arrangement (view from termination side)																											
Han E [®] HMC, Crimp contact, HMC gold plated contacts, contact resistance ≤1 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5 4	09 33 200 6117 09 33 200 6122 09 33 200 6115 09 33 200 6118 09 33 200 6116 09 33 200 6123 09 33 200 6119	09 33 200 6217 09 33 200 6222 09 33 200 6215 09 33 200 6218 09 33 200 6216 09 33 200 6223 09 33 200 6221	 <table border="1"> <thead> <tr> <th>Identification</th> <th>Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>no groove</td> <td>0.14-0.37 mm² AWG 26-22</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>0.5 mm² AWG 20</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove*</td> <td>0.75 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove</td> <td>1 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>2 grooves</td> <td>1.5 mm² AWG 16</td> <td>7.5 mm</td> </tr> <tr> <td>3 grooves</td> <td>2.5 mm² AWG 14</td> <td>7.5 mm</td> </tr> <tr> <td>wide groove</td> <td>3 mm² AWG 12</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>4 mm² AWG 12</td> <td>7.5 mm</td> </tr> </tbody> </table> <p>* on the back crimp collar</p>	Identification	Wire gauge	Stripping length	no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm	no groove	0.5 mm ² AWG 20	7.5 mm	1 groove*	0.75 mm ² AWG 18	7.5 mm	1 groove	1 mm ² AWG 18	7.5 mm	2 grooves	1.5 mm ² AWG 16	7.5 mm	3 grooves	2.5 mm ² AWG 14	7.5 mm	wide groove	3 mm ² AWG 12	7.5 mm	no groove	4 mm ² AWG 12	7.5 mm
Identification	Wire gauge	Stripping length																													
no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm																													
no groove	0.5 mm ² AWG 20	7.5 mm																													
1 groove*	0.75 mm ² AWG 18	7.5 mm																													
1 groove	1 mm ² AWG 18	7.5 mm																													
2 grooves	1.5 mm ² AWG 16	7.5 mm																													
3 grooves	2.5 mm ² AWG 14	7.5 mm																													
wide groove	3 mm ² AWG 12	7.5 mm																													
no groove	4 mm ² AWG 12	7.5 mm																													

Han HMC

Features

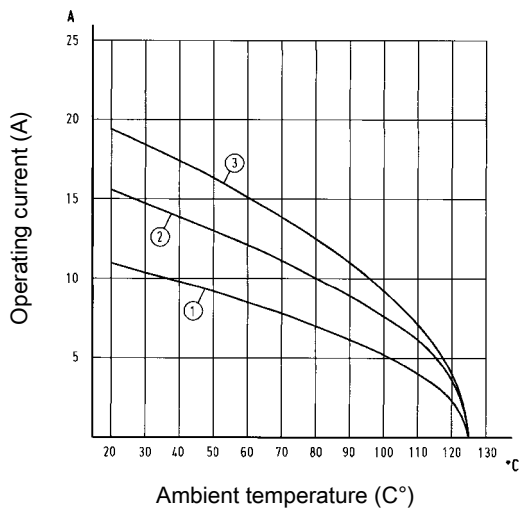
- Suitable for Han E® crimp contacts
- Designed for a high working voltage up to 830 V
- Finger safe male and female contacts

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① 24 B hoods/housings with 6 modules Wire cross section 1.5 mm²
- ② 24 B hoods/housings with 6 modules Wire cross section 2.5 mm²
- ③ 24 B hoods/housings with 6 modules Wire cross section 4 mm²

Technical characteristics

Contacts	6
Electrical data acc. to IEC 61984	16 A 830 V 8 kV 3
Rated current	16 A
Rated voltage	830 V
Rated impulse voltage	8 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Mating cycles with HMC contacts	≥10000
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique


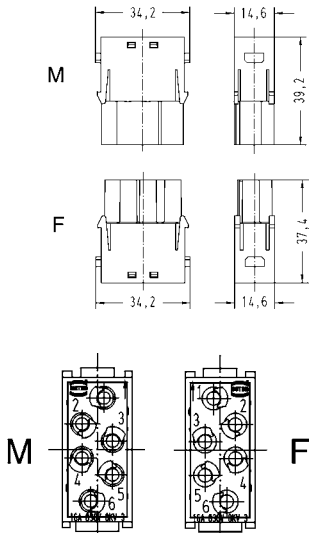

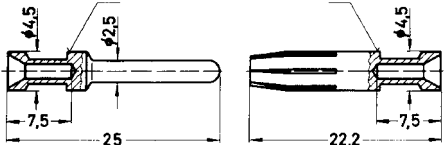
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Designed for 10,000 mating cycles (only with Han E® HMC crimp contacts, Han-Modular® Docking frame and Han-Modular® Hinged frame HMC)

Number of contacts

6

830 V
16 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																											
		male	female																												
Han-Modular [®] , Han E [®] Protected module, Crimp terminal  <p>Please order crimp contacts separately.</p>		09 14 006 3041	09 14 006 3141	 <p>Contact arrangement (view from termination side)</p>																											
Han E [®] HMC, Crimp contact, HMC gold plated contacts, contact resistance ≤1 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5 4	09 33 200 6117 09 33 200 6122 09 33 200 6115 09 33 200 6118 09 33 200 6116 09 33 200 6123 09 33 200 6119	09 33 200 6217 09 33 200 6222 09 33 200 6215 09 33 200 6218 09 33 200 6216 09 33 200 6223 09 33 200 6221	 <table border="1"> <thead> <tr> <th>Identification</th> <th>Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>no groove</td> <td>0.14-0.37 mm² AWG 26-22</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>0.5 mm² AWG 20</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove*</td> <td>0.75 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove</td> <td>1 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>2 grooves</td> <td>1.5 mm² AWG 16</td> <td>7.5 mm</td> </tr> <tr> <td>3 grooves</td> <td>2.5 mm² AWG 14</td> <td>7.5 mm</td> </tr> <tr> <td>wide groove</td> <td>3 mm² AWG 12</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>4 mm² AWG 12</td> <td>7.5 mm</td> </tr> </tbody> </table> <p>* on the back crimp collar</p>	Identification	Wire gauge	Stripping length	no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm	no groove	0.5 mm ² AWG 20	7.5 mm	1 groove*	0.75 mm ² AWG 18	7.5 mm	1 groove	1 mm ² AWG 18	7.5 mm	2 grooves	1.5 mm ² AWG 16	7.5 mm	3 grooves	2.5 mm ² AWG 14	7.5 mm	wide groove	3 mm ² AWG 12	7.5 mm	no groove	4 mm ² AWG 12	7.5 mm
Identification	Wire gauge	Stripping length																													
no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm																													
no groove	0.5 mm ² AWG 20	7.5 mm																													
1 groove*	0.75 mm ² AWG 18	7.5 mm																													
1 groove	1 mm ² AWG 18	7.5 mm																													
2 grooves	1.5 mm ² AWG 16	7.5 mm																													
3 grooves	2.5 mm ² AWG 14	7.5 mm																													
wide groove	3 mm ² AWG 12	7.5 mm																													
no groove	4 mm ² AWG 12	7.5 mm																													

Han HMC

Features

- High contact density

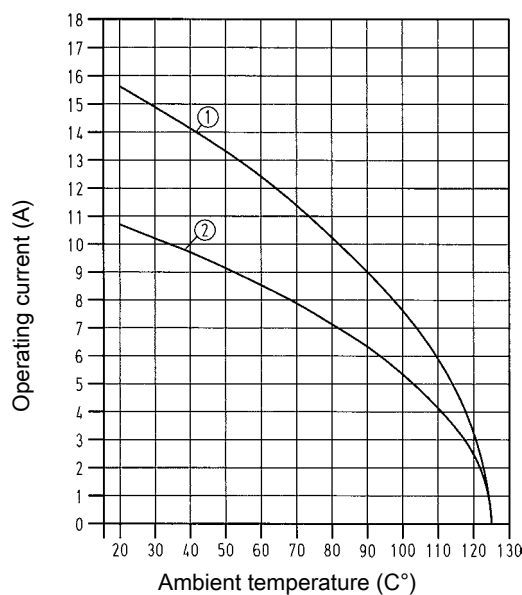
Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2

Crimp terminal



① 24 B hoods/housings with 6 modules Wire cross section 2.5 mm²

② 24 B hoods/housings with 6 modules Wire cross section 1.5 mm²

Technical characteristics

Contacts	8
Electrical data acc. to IEC 61984	16 A 400 V 6 kV 3
Rated current	16 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Mating cycles with HMC contacts	≥10000
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique


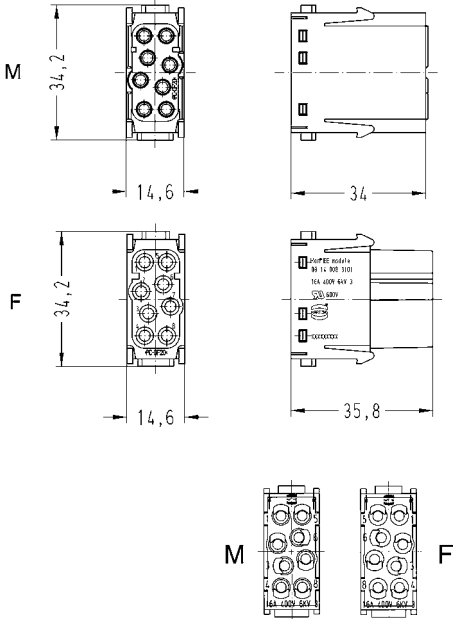

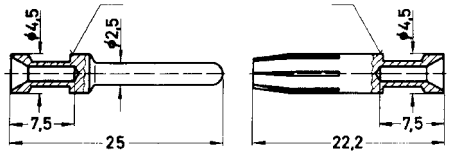
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Designed for 10,000 mating cycles (only with Han E® HMC crimp contacts, Han-Modular® Docking frame and Han-Modular® Hinged frame HMC)

Number of contacts

8+

400 V
16 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																											
		male	female																												
Han-Modular®, Han® EE module, Crimp terminal  Please order crimp contacts separately.		09 14 008 3001	09 14 008 3101	 Contact arrangement (view from termination side)																											
Han E® HMC, Crimp contact, HMC gold plated contacts, contact resistance ≤1 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5 4	09 33 200 6117 09 33 200 6122 09 33 200 6115 09 33 200 6118 09 33 200 6116 09 33 200 6123 09 33 200 6119	09 33 200 6217 09 33 200 6222 09 33 200 6215 09 33 200 6218 09 33 200 6216 09 33 200 6223 09 33 200 6221	 <table border="1"> <thead> <tr> <th>Identification</th> <th>Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>no groove</td> <td>0.14-0.37 mm² AWG 26-22</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>0.5 mm² AWG 20</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove*</td> <td>0.75 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove</td> <td>1 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>2 grooves</td> <td>1.5 mm² AWG 16</td> <td>7.5 mm</td> </tr> <tr> <td>3 grooves</td> <td>2.5 mm² AWG 14</td> <td>7.5 mm</td> </tr> <tr> <td>wide groove</td> <td>3 mm² AWG 12</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>4 mm² AWG 12</td> <td>7.5 mm</td> </tr> </tbody> </table> <p>* on the back crimp collar</p>	Identification	Wire gauge	Stripping length	no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm	no groove	0.5 mm ² AWG 20	7.5 mm	1 groove*	0.75 mm ² AWG 18	7.5 mm	1 groove	1 mm ² AWG 18	7.5 mm	2 grooves	1.5 mm ² AWG 16	7.5 mm	3 grooves	2.5 mm ² AWG 14	7.5 mm	wide groove	3 mm ² AWG 12	7.5 mm	no groove	4 mm ² AWG 12	7.5 mm
Identification	Wire gauge	Stripping length																													
no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm																													
no groove	0.5 mm ² AWG 20	7.5 mm																													
1 groove*	0.75 mm ² AWG 18	7.5 mm																													
1 groove	1 mm ² AWG 18	7.5 mm																													
2 grooves	1.5 mm ² AWG 16	7.5 mm																													
3 grooves	2.5 mm ² AWG 14	7.5 mm																													
wide groove	3 mm ² AWG 12	7.5 mm																													
no groove	4 mm ² AWG 12	7.5 mm																													

Han HMC

Features

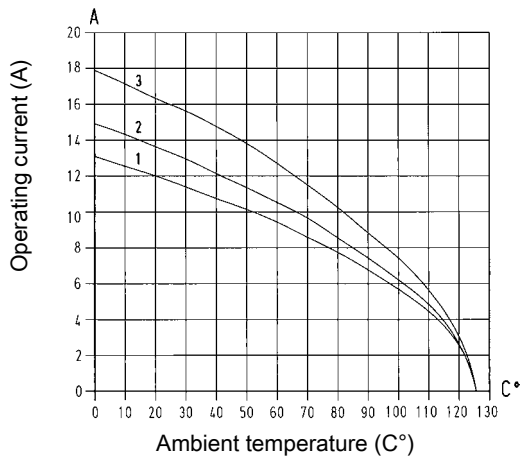
- Suitable for Han E® crimp contacts
- Higher density of crimping contacts
- Standard module for power up to 16 A
- Also suitable as a reliable signal connector

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① 24 B hoods/housings with 3 modules Wire cross section 1.5 mm²
- ② 24 B hoods/housings with 3 modules Wire cross section 2.5 mm²
- ③ 24 B hoods/housings with 3 modules Wire cross section 4 mm²

Technical characteristics

Contacts	20
Electrical data acc. to IEC 61984	16 A 500 V 6 kV 3
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Mating cycles with HMC contacts	≥10000
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique


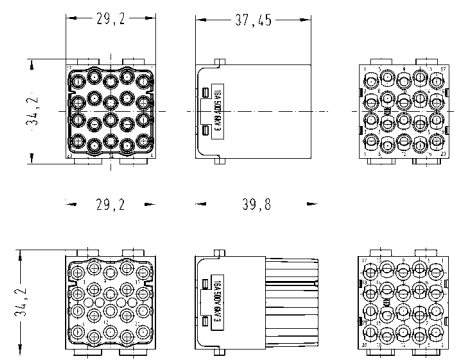

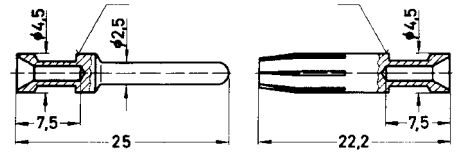
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Designed for 10,000 mating cycles (only with Han E® HMC crimp contacts, Han-Modular® Docking frame and Han-Modular® Hinged frame HMC)

Number of contacts

20

500 V
16 A

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm																											
		male	female																												
Han-Modular®, Han® EEE module, Crimp terminal  <p>Please order crimp contacts separately.</p>		09 14 020 3001	09 14 020 3101	 <p>Contact arrangement (view from termination side)</p>																											
Han E® HMC, Crimp contact, HMC gold plated contacts, contact resistance ≤1 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5 4	09 33 200 6117 09 33 200 6122 09 33 200 6115 09 33 200 6118 09 33 200 6116 09 33 200 6123 09 33 200 6119	09 33 200 6217 09 33 200 6222 09 33 200 6215 09 33 200 6218 09 33 200 6216 09 33 200 6223 09 33 200 6221	 <table border="1"> <thead> <tr> <th>Identification</th> <th>Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>no groove</td> <td>0.14-0.37 mm² AWG 26-22</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>0.5 mm² AWG 20</td> <td>7.5 mm</td> </tr> <tr> <td>* 1 groove</td> <td>0.75 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove</td> <td>1 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>2 grooves</td> <td>1.5 mm² AWG 16</td> <td>7.5 mm</td> </tr> <tr> <td>3 grooves</td> <td>2.5 mm² AWG 14</td> <td>7.5 mm</td> </tr> <tr> <td>wide groove</td> <td>3 mm² AWG 12</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>4 mm² AWG 12</td> <td>7.5 mm</td> </tr> </tbody> </table> <p>* on the back crimp collar</p>	Identification	Wire gauge	Stripping length	no groove	0.14-0.37 mm² AWG 26-22	7.5 mm	no groove	0.5 mm² AWG 20	7.5 mm	* 1 groove	0.75 mm² AWG 18	7.5 mm	1 groove	1 mm² AWG 18	7.5 mm	2 grooves	1.5 mm² AWG 16	7.5 mm	3 grooves	2.5 mm² AWG 14	7.5 mm	wide groove	3 mm² AWG 12	7.5 mm	no groove	4 mm² AWG 12	7.5 mm
Identification	Wire gauge	Stripping length																													
no groove	0.14-0.37 mm² AWG 26-22	7.5 mm																													
no groove	0.5 mm² AWG 20	7.5 mm																													
* 1 groove	0.75 mm² AWG 18	7.5 mm																													
1 groove	1 mm² AWG 18	7.5 mm																													
2 grooves	1.5 mm² AWG 16	7.5 mm																													
3 grooves	2.5 mm² AWG 14	7.5 mm																													
wide groove	3 mm² AWG 12	7.5 mm																													
no groove	4 mm² AWG 12	7.5 mm																													

Han HMC

Features

- Standard module for signal up to 10 A

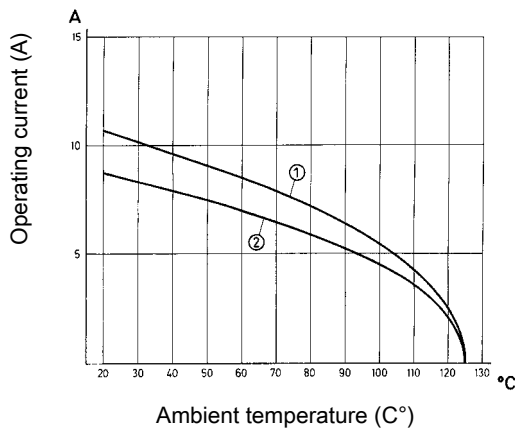
Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2

Crimp terminal



- ① 24 B hoods/housings with 6 modules Wire cross section 1.5 mm²
- ② 24 B hoods/housings with 6 modules Wire cross section 1 mm²

Technical characteristics

Contacts	12
Electrical data acc. to IEC 61984	10 A 250 V 4 kV 3
Rated current	10 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Mating cycles with HMC contacts	≥10000
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique


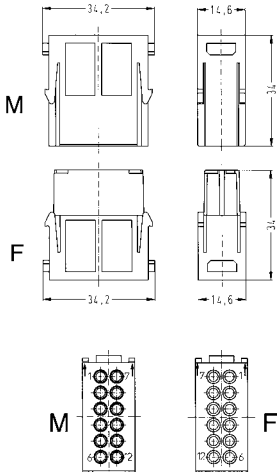

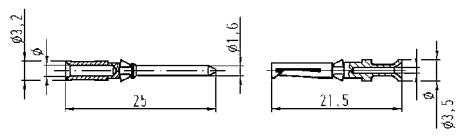
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Designed for 10,000 mating cycles (only with Han D[®] HMC crimp contacts and with Han-Modular[®] Docking frame)

Number of contacts

12+

250 V
10 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																					
		male	female																						
Han-Modular®, Han DD® module, Crimp terminal  Please order crimp contacts separately.		09 14 012 3001	09 14 012 3101	 Contact arrangement (view from termination side)																					
Han D® HMC, Crimp contact, HMC gold plated contacts, contact resistance ≤3 mOhm 	0.14 – 0.37 0.5 0.75 1 1.5 2.5	09 15 200 6124 09 15 200 6123 09 15 200 6125 09 15 200 6122 09 15 200 6121 09 15 200 6126	09 15 200 6224 09 15 200 6223 09 15 200 6225 09 15 200 6222 09 15 200 6221 09 15 200 6226	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
Wire gauge	∅	Stripping length																							
0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																							
0.5 mm ² AWG 20	1.1 mm	8 mm																							
0.75 mm ² AWG 18	1.3 mm	8 mm																							
1 mm ² AWG 18	1.45 mm	8 mm																							
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							

Han HMC

Features

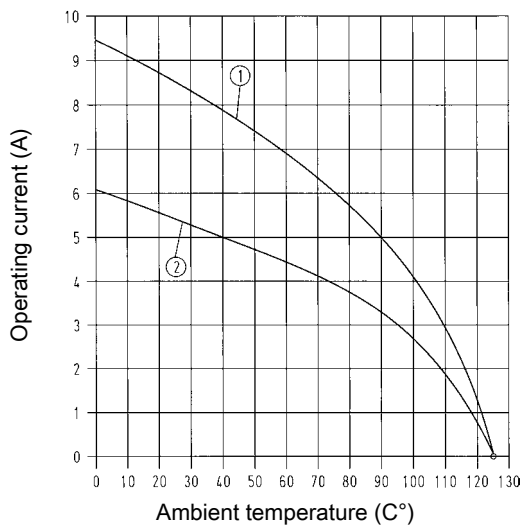
- Suitable for Han D® crimp contacts
- High contact density

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① 24 B hoods/housings with 6 modules Wire cross section 1.5 mm²
- ② 24 B hoods/housings with 6 modules Wire cross section 1 mm²

Technical characteristics

Contacts	17
Electrical data acc. to IEC 61984	10 A 160 V 2.5 kV 3
Rated current	10 A
Rated voltage	160 V
Rated impulse voltage	2.5 kV
Pollution degree	3
Rated voltage acc. to UL	250 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Mating cycles with HMC contacts	≥10000
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Crimping tools see chapter 90

Remarks on the crimp technique

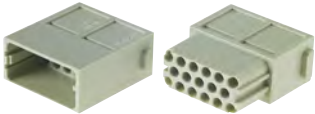
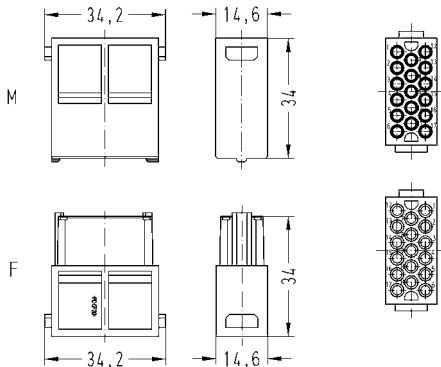

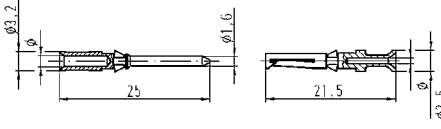
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Designed for 10,000 mating cycles (only with Han D® HMC crimp contacts and with Han-Modular® Docking frame)

Number of contacts

17

160 V
10 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																					
		male	female																						
Han-Modular®, Han® DDD module, Crimp terminal  Please order crimp contacts separately.		09 14 017 3001	09 14 017 3101	 Contact arrangement (view from termination side)																					
Han D® HMC, Crimp contact, HMC gold plated contacts, contact resistance ≤3 mOhm 	0.14 – 0.37 0.5 0.75 1 1.5 2.5	09 15 200 6124 09 15 200 6123 09 15 200 6125 09 15 200 6122 09 15 200 6121 09 15 200 6126	09 15 200 6224 09 15 200 6223 09 15 200 6225 09 15 200 6222 09 15 200 6221 09 15 200 6226	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
Wire gauge	∅	Stripping length																							
0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																							
0.5 mm ² AWG 20	1.1 mm	8 mm																							
0.75 mm ² AWG 18	1.3 mm	8 mm																							
1 mm ² AWG 18	1.45 mm	8 mm																							
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							

Han
HMC

Features

- Hoods/Housings, metal
- Locking levers: Han-Easy Lock[®] with special locking reel
- **Field of application:** for excellent mechanical and electrical protection in demanding environments, for example, in the automobile and mechanical engineering industries also for process and regulation control applications
- **Distinguishing feature:** hoods/housings colour-coded grey (RAL 7037)


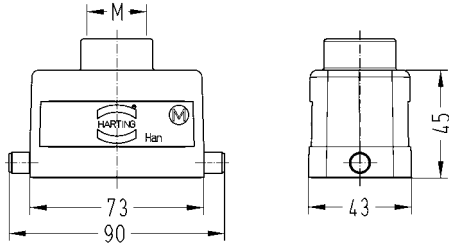

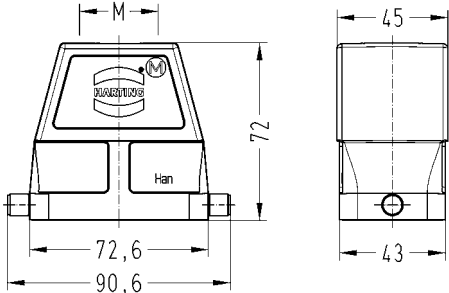
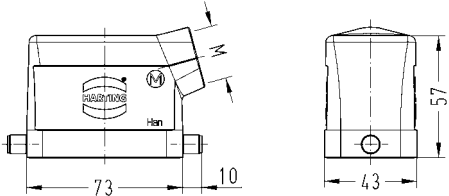
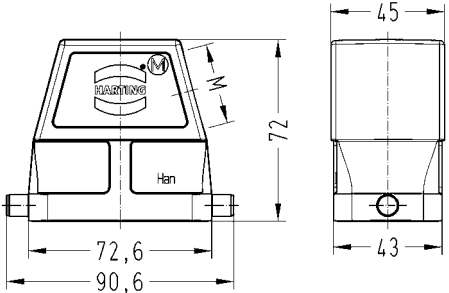
Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Mating cycles	≥10000
Flammability (locking lever) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	aluminium
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 7037 (grey)
Material (locking lever)	polycarbonate + stainless steel
Colour (locking lever)	RAL 7037 (grey)
Material (seal)	NBR

Specifications and approvals


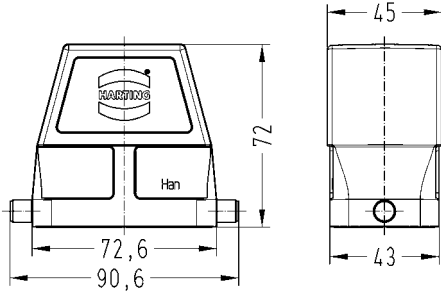

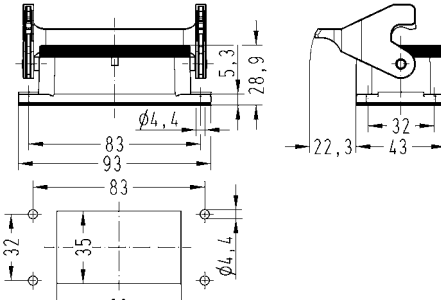

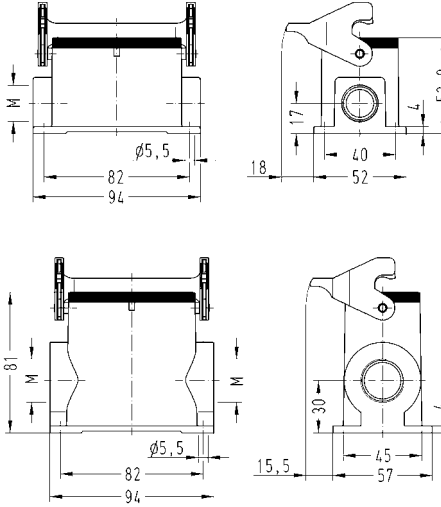
ⓂGL

Metal hoods/housings for industrial applications
single locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han® B HMC, Hoods, top entry 	1xM20 1xM25 1xM32	19 30 210 1440 19 30 210 1441	19 30 210 0447		
Han® B HMC, Hoods, side entry 	1xM20 1xM25 1xM32	19 30 210 1540 19 30 210 1541	19 30 210 0547		
					
					

Han
HMC



Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B HMC, Hoods, without cable entry 	-		09 30 210 0803	
Han® B HMC, Bulkhead mounted housings, Han-Easy Lock® 	-	09 30 210 0305		 <p>Panel cut out</p>
Han® B HMC, Surface mounted housings, side entry, Han-Easy Lock® 	1xM20 2xM20 2xM25 2xM32	19 30 210 1250 19 30 210 1290	19 30 210 0291 19 30 210 0292	


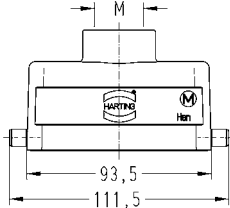
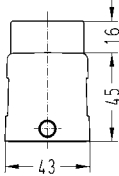

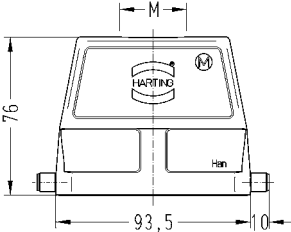
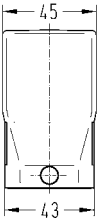

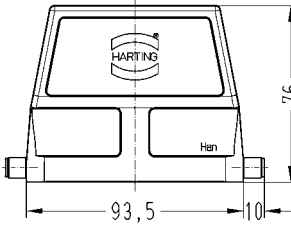
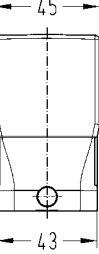
Han
HMC

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B HMC, Cable to cable housings, top entry, Han-Easy Lock®	1xM20 1xM25	19 30 210 1750	19 30 210 0756	






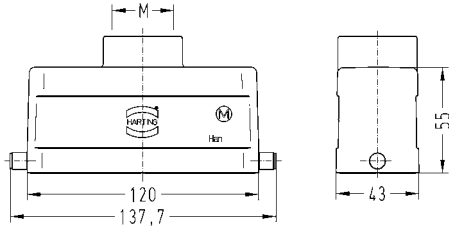
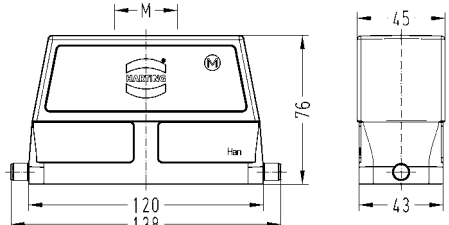

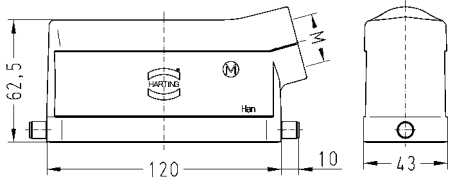
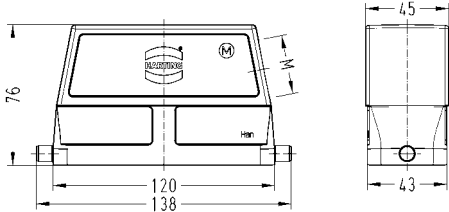

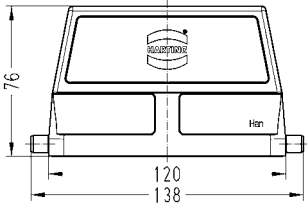
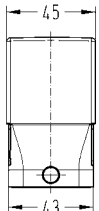
Metal hoods/housings for industrial applications
single locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han® B HMC, Hoods, top entry 	1xM25 1xM32 1xM40	19 30 216 1441 19 30 216 1442	19 30 216 0447 19 30 216 0448		
Han® B HMC, Hoods, side entry 	1xM25 1xM32 1xM40	19 30 216 1541 19 30 216 1542	19 30 216 0547 19 30 216 0548		
Han® B HMC, Hoods, without cable entry 	-		09 30 216 0803		


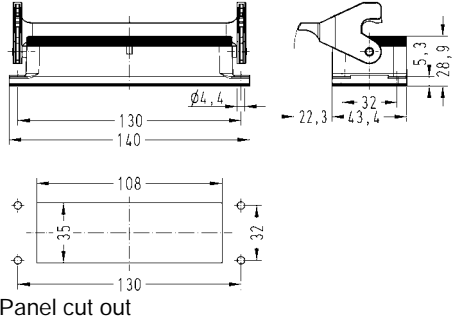

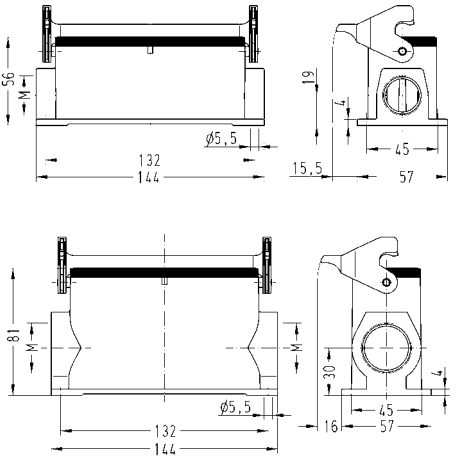

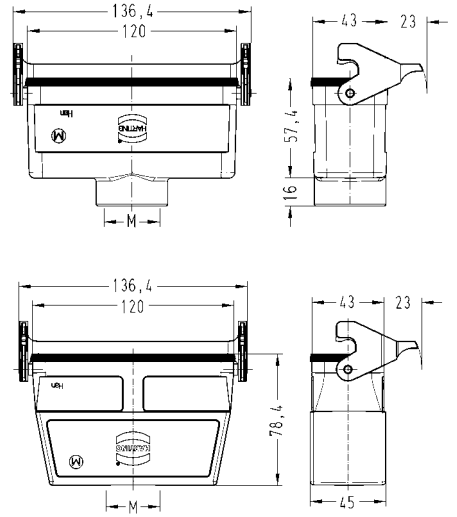
Han
HMC



Metal hoods/housings for industrial applications
single locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han® B HMC, Hoods, top entry 	1xM32 1xM40	19 30 224 1442	19 30 224 0447 19 30 224 0448		
Han® B HMC, Hoods, side entry 	1xM25 1xM32 1xM40	19 30 224 1541 19 30 224 1542	19 30 224 0547 19 30 224 0548		
Han® B HMC, Hoods, without cable entry 	-		09 30 224 0803		

Han
HMC

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B HMC, Bulkhead mounted housings, Han-Easy Lock® 		09 30 224 0307		 <p>Panel cut out</p>
Han® B HMC, Surface mounted housings, side entry, Han-Easy Lock® 	1xM25 2xM25 2xM32	19 30 224 1251 19 30 224 1291	19 30 224 0292	
Han® B HMC, Cable to cable housings, top entry, Han-Easy Lock® 	1xM32	19 30 224 1752	19 30 224 0757	

Han
HMC

Features

- Suitable for all inserts of the series Han E[®], Han E[®] HMC, Han EE[®], Han EE[®] HMC, Han EEE[®], Han EEE[®] HMC, Han[®] ES, Han D[®] (size B), Han D[®] HMC, Han DD[®], Han DD[®] HMC, Han-Com[®], Han[®] HsB, Han-Modular[®]
- Ideal for applications in the field of transportation, as well as in the printing industry
- Due to the floating system of the docking frame the PE connection of the mounting base has to be installed separately
- Inserts are protected against mechanical damage

Technical characteristics

Mating cycles	≥500
Mating cycles with HMC connectors	≥10000
Material (hoods/housings)	stainless steel
Material (screwing)	zinc die-cast



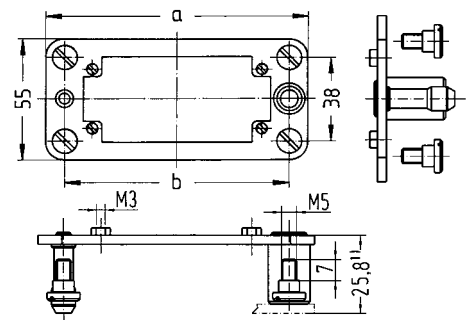
Identification	Size	Part number	Drawing Dimensions in mm
----------------	------	-------------	-----------------------------

Docking frame
 Range of delivery:
 1 frame,
 4 cheese head shoulder screws to fix the docking frame

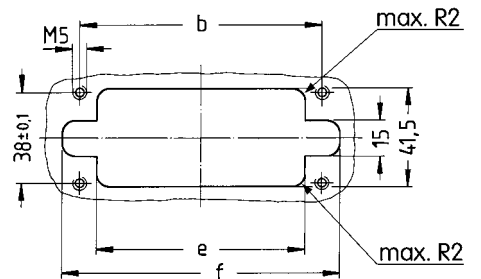


pull-in-range x-axis: ± 1.5 mm
 pull-in-range y-axis: ± 1.5 mm

6 B	09 30 006 1701
10 B	09 30 010 1701
16 B	09 30 016 1701
24 B	09 30 024 1701



Distance for electrical and F.O. contacts
 max. 27 mm; for pneumatic contacts max.
 26.5 mm
 6 B: a=86; b=69
 10 B: a=99; b=82
 16 B: a= 119.5 ; b= 102.5
 24 B: a=146; b=129



6 B: b= 69; e= 54.5; f= 84
 10 B: b= 82; e= 67.5; f= 97
 16 B: b= 102.5; e= 88; f= 117.5
 24 B: b= 129; e= 114.5; f= 144

Contents	Page
Han® High Temp inserts.....	17.3
Han® High Temp contacts.....	17.8
Han® High Temp hoods/housings	17.9

Description

Han® High Temp is a new product series that is based on our well-established Han® B and Han® E series. We used high-quality materials with wide temperature ranges to produce connectors that are uniquely suited for a wide variety of applications.

These connectors can withstand temperatures up to 200 °C – so they can be used directly in machines and facilities that would otherwise require cumbersome and complex constructions.

For our users, this delivers direct advantages:

- **The electro-mechanical design process is optimized.**
Machine parts which are exposed to high temperatures can be designed modularly.
- **The work process is optimized**
since lower wiring complexity results in reduced maintenance costs.
- **The after-sales phase is optimized**
because this more service-friendly approach results in less outages and down times.

Design overview

The basic structure of the Han® High Temp connector consists of a bulkhead mounted housing and a cable-side hood.

Hoods and housings:

The aluminium die-cast hoods and housings feature a highly compressed surface with excellent non-stick properties. It also has a special non-stick coating on the bulkhead-side seal which allows easy handling without sticking.

Inserts:

The Han® High Temp series features very rugged contact inserts, which are really the heart of any connector. The LCP injection-moulded insert in combination with temperature resistant ground terminal delivers outstanding temperature resistance coupled with excellent mechanical stability.

Contacts:

Our new temperature resistant contacts, for either screw or crimp terminations, ensure reliable connections with minimal contact resistance even at extreme temperatures.



Han® High Temp connectors remain robust and reliable for their entire lifespan!

Features

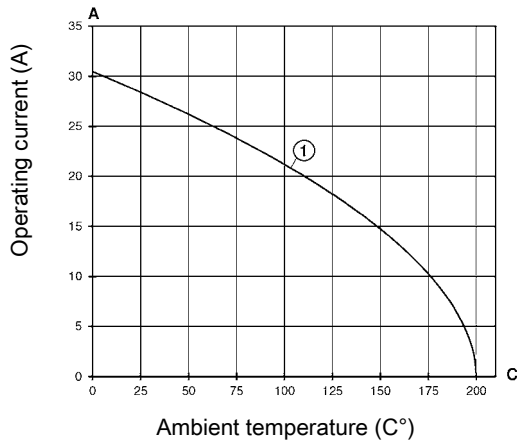
- Reliable also at extreme temperatures up to 200 °C
- All piece parts (contacts, insert material, hoods and housings, seals and grounding elements) are designed in a temperature resistant way
- Developed on the basis of the proven Han® E series

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



① Wire cross section 2.5 mm²

Technical characteristics

Contacts	6, 10, 16, 24
Electrical data acc. to IEC 61984	16 A 400 V 6 kV 3
Rated current	16 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures with High Temp components	-40 °C ... 200 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Tightening torque	0.5 Nm
Material (insert)	LCP
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals

IEC 60664-1
IEC 61984

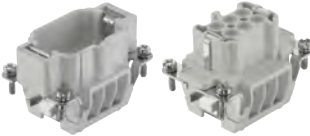
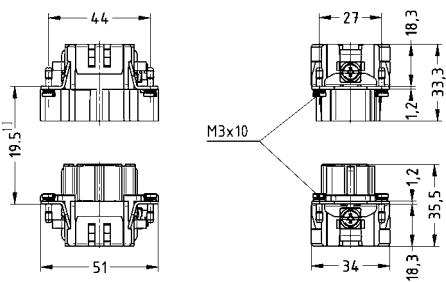
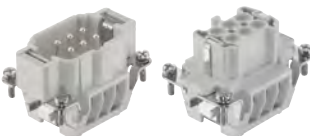
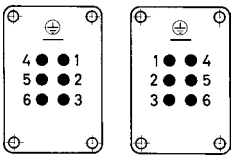
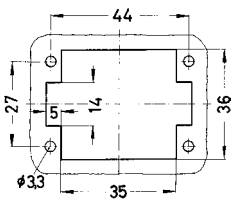
Details

Han® High Temp crimp inserts are only for use with the special Han® High Temp crimp contacts.

Number of contacts

6+

400 V
16 A


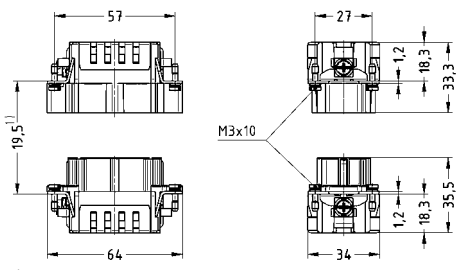

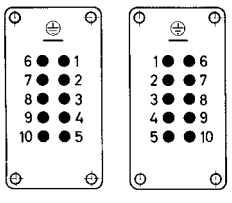
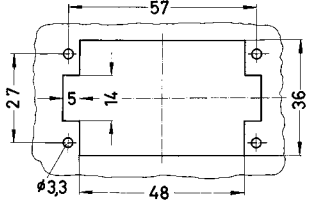
Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p>Han® High Temp, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 33 806 2602	09 33 806 2702	 <p>1) Distance for contact max. 21 mm</p>
<p>Han® High Temp, Screw terminal, with wire protection</p> 	0.5-2.5	09 33 806 2601	09 33 806 2701	 <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>

High Temp

Number of contacts

10+

400 V
16 A


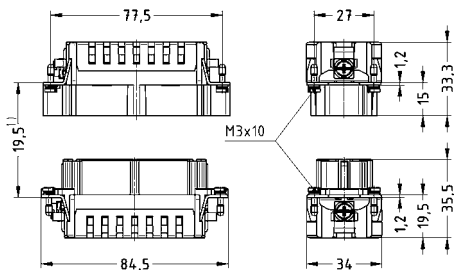

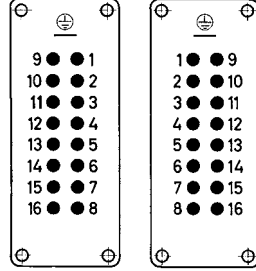
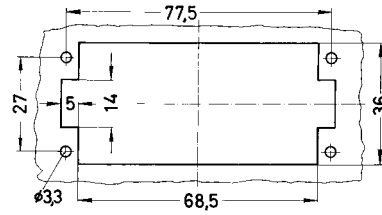
Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p>Han® High Temp, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 33 810 2602	09 33 810 2702	 <p>1) Distance for contact max. 21 mm</p>
<p>Han® High Temp, Screw terminal, with wire protection</p> 	0.5 – 2.5	09 33 810 2601	09 33 810 2701	 <p>M F</p> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>

High Temp

Number of contacts

16+

400 V
16 A


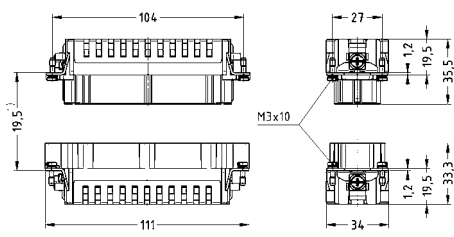

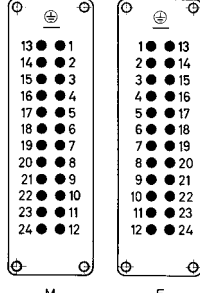
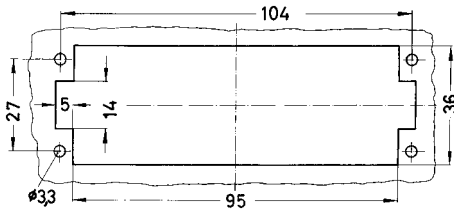
Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p>Han® High Temp, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 33 816 2602	09 33 816 2702	 <p>1) Distance for contact max. 21 mm</p>
<p>Han® High Temp, Screw terminal, with wire protection</p> 	0.5–2.5	09 33 816 2601	09 33 816 2701	 <p style="text-align: center;">M F</p> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>

High Temp

Number of contacts

24+

400 V
16 A

Identification	Wire cross section (mm ²)	Part number male female		Drawing Dimensions in mm
<p>Han® High Temp, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		09 33 824 2602	09 33 824 2702	 <p>1) Distance for contact max. 21 mm</p>
<p>Han® High Temp, Screw terminal, with wire protection</p> 	0.5 – 2.5	09 33 824 2601	09 33 824 2701	 <p>M F</p> <p>Contact arrangement (view from termination side)</p>  <p>Panel cut out</p>

High Temp

Technical characteristics


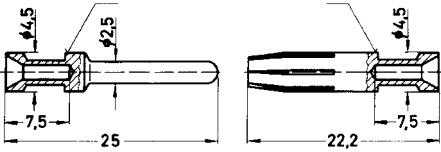
Limiting temperatures with High Temp components -40 °C ... 200 °C
 Material (contact) copper alloy

Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm																											
		male	female																												
Crimp contact, silver plated contacts, contact resistance ≤1 mOhm 	0.5	09 33 800 6121	09 33 800 6220																												
	0.75	09 33 800 6114	09 33 800 6214																												
	1	09 33 800 6105	09 33 800 6205																												
	1.5	09 33 800 6104	09 33 800 6204																												
	2.5	09 33 800 6102	09 33 800 6202																												
				<table border="1"> <thead> <tr> <th>Identification</th> <th>Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>no groove</td> <td>0.14-0.37 mm² AWG 26-22</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>0.5 mm² AWG 20</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove*</td> <td>0.75 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>1 groove</td> <td>1 mm² AWG 18</td> <td>7.5 mm</td> </tr> <tr> <td>2 grooves</td> <td>1.5 mm² AWG 16</td> <td>7.5 mm</td> </tr> <tr> <td>3 grooves</td> <td>2.5 mm² AWG 14</td> <td>7.5 mm</td> </tr> <tr> <td>wide groove</td> <td>3 mm² AWG 12</td> <td>7.5 mm</td> </tr> <tr> <td>no groove</td> <td>4 mm² AWG 12</td> <td>7.5 mm</td> </tr> </tbody> </table> <p>* on the back crimp collar</p>	Identification	Wire gauge	Stripping length	no groove	0.14-0.37 mm² AWG 26-22	7.5 mm	no groove	0.5 mm² AWG 20	7.5 mm	1 groove*	0.75 mm² AWG 18	7.5 mm	1 groove	1 mm² AWG 18	7.5 mm	2 grooves	1.5 mm² AWG 16	7.5 mm	3 grooves	2.5 mm² AWG 14	7.5 mm	wide groove	3 mm² AWG 12	7.5 mm	no groove	4 mm² AWG 12	7.5 mm
Identification	Wire gauge	Stripping length																													
no groove	0.14-0.37 mm² AWG 26-22	7.5 mm																													
no groove	0.5 mm² AWG 20	7.5 mm																													
1 groove*	0.75 mm² AWG 18	7.5 mm																													
1 groove	1 mm² AWG 18	7.5 mm																													
2 grooves	1.5 mm² AWG 16	7.5 mm																													
3 grooves	2.5 mm² AWG 14	7.5 mm																													
wide groove	3 mm² AWG 12	7.5 mm																													
no groove	4 mm² AWG 12	7.5 mm																													

High Temp

Features

- Reliable also at extreme temperatures up to 200 °C
- All piece parts (contacts, insert material, hoods and housings, seals and grounding elements) are designed in a temperature resistant way
- Hoods/Housings, corrosion resistant metal
- Electrically conductive surface

Technical characteristics


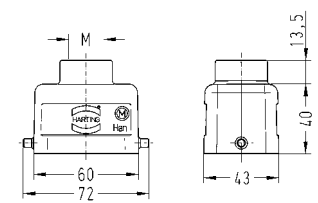
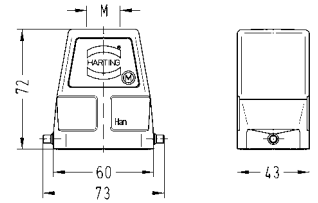

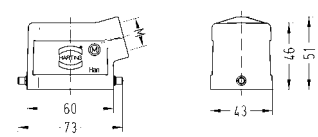
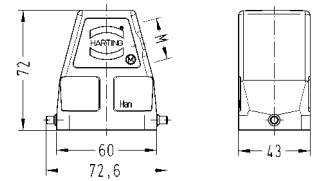

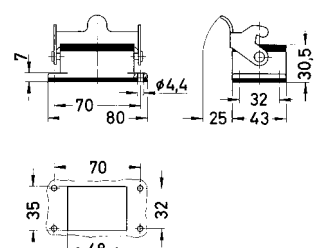
Limiting temperatures	-40 °C ... 125 °C
Limiting temperatures with High Temp components	-40 °C ... 200 °C
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	aluminium
Surface (hoods/housings)	unpainted
Material (locking lever)	stainless steel
Material (seal)	FPM (red)

Specifications and approvals

ⓂGL


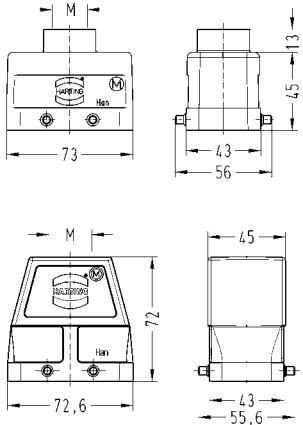

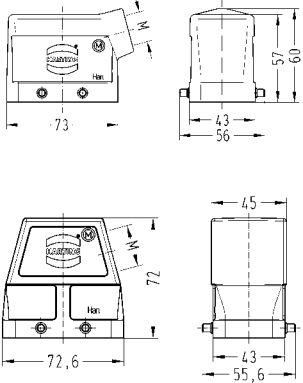

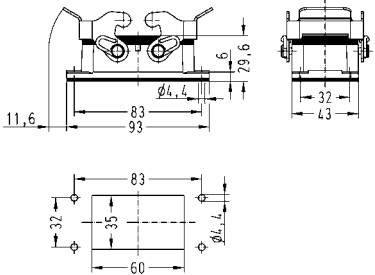


single locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® EMC/B, Han® High Temp, Hoods, top entry 	1xM20 1xM25 1xM32	19 62 806 1440	19 62 806 0446 19 62 806 0447	 
Han® EMC/B, Han® High Temp, Hoods, side entry 	1xM20 1xM25 1xM32	19 62 806 1540	19 62 806 0546 19 62 806 0547	 
Han® High Temp, Bulkhead mounted housings 		09 62 806 0391		 Panel cut out

High
Temp


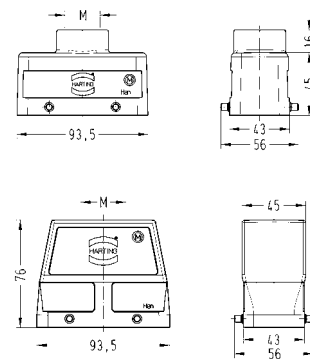

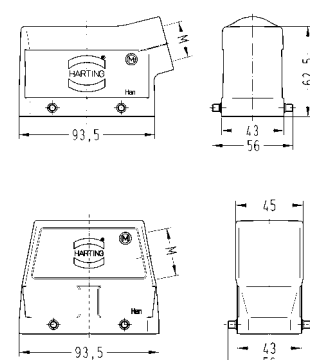

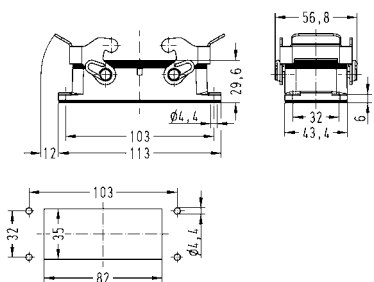
double locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® EMC/B, Han® High Temp, Hoods, top entry 	1xM20 1xM25 1xM32	19 62 810 1420 19 62 810 1421	19 62 810 0426 19 62 810 0427	
Han® EMC/B, Han® High Temp, Hoods, side entry 	1xM20 1xM25 1xM32	19 62 810 1520	19 62 810 0526 19 62 810 0527	
Han® High Temp, Bulkhead mounted housings 		09 62 810 0391		 <p>Panel cut out</p>

High Temp


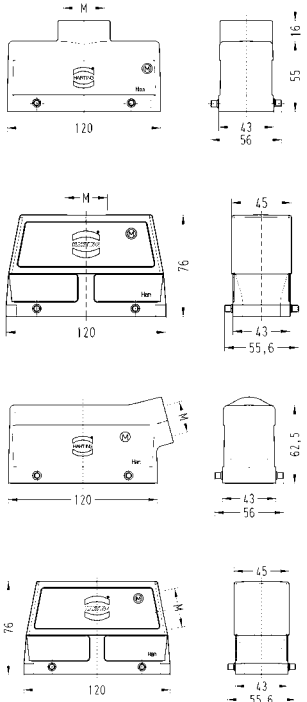

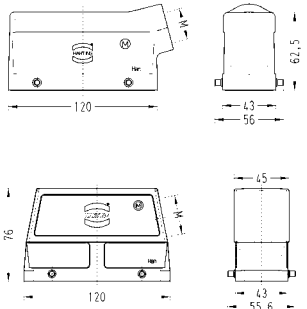

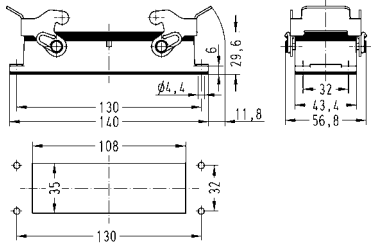


double locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® EMC/B, Han® High Temp, Hoods, top entry 	1xM25 1xM32	19 62 816 1421	19 62 816 0427	
Han® EMC/B, Han® High Temp, Hoods, side entry 	1xM25 1xM32	19 62 816 1521	19 62 816 0527	
Han® High Temp, Bulkhead mounted housings 		09 62 816 0391		 <p>Panel cut out</p>

High Temp

double locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® EMC/B, Han® High Temp, Hoods, top entry 	1xM32	19 62 824 1422	19 62 824 0427	
Han® EMC/B, Han® High Temp, Hoods, side entry 	1xM25 1xM32 1xM40	19 62 824 1521	19 62 824 0527 19 62 824 0528	
Han® High Temp, Bulkhead mounted housings 		09 62 824 0391		 <p>Panel cut out</p>

High Temp

Contents	Page
Han-Brid® Cu	19.6
Han-Brid® F.O.	19.10
Han-Brid® Quintax 3 A	19.13
Han-Brid® Quintax 3 A with Han-Quintax® contacts.....	19.15
Han-Brid® Quintax 3 A with Han-Quintax® HD contacts.....	19.16
Han-Brid® Quintax 3 A with coaxial contacts	19.17
Han-Brid® RJ45 C.....	19.19
Han-Brid® USB	19.22
Han-Brid® FireWire	19.23
Han® 4 A SC	19.24
Hoods/Housings, metal Han® 3 A.....	19.26
Hoods/Housings, thermoplastic Han® 3 A.....	19.30
Han® M hoods/housings	19.35
Han® EMC hoods/housings	19.38
Han-INOX® hoods/housings	19.41
Han® HPR hoods/housings.....	19.44

Features


General Description

The Han-Brid® series allows the connection of a data interface and a power supply in a single space saving connector. This means that it is now possible to provide data transmission and power to devices in a single bus structure. This hybrid connector family includes provision for connection of a max. 50 V, 10 A power supply together with a range of inserts for connection of a variety of data protocols and transmission medias:

- Han-Brid® F.O. for plastic (POF) or for HCS®* optical fibre
- Han-Brid® Cu for shielded twisted pair
- Han-Brid® Quintax 3 A for Coax cable with large diameter
- Han-Brid® Quintax 3 A for shielded 4 or 8 wire bus systems (2 pair STP)
- Han-Brid® RJ45 C for Ethernet application
- Han-Brid® USB / Firewire for fast data transmission

Han-Brid® inserts fit into the standard plastic as well as metal hoods and housings with seal of the Han® 3 A series offering a degree of protection IP 65 according to DIN EN 60 529. For harsher environments Han® 3 HPR hoods and housings with a degree of protection of IP 68 can be used.

Power supply

- Han D® male and female with standard crimp contacts (Order crimp contacts separately)
- Rated current 10 A
- Rated voltage 50 V
- termination side 0.14 - 2.5 mm²
- Approval 

Data interfaces

Han-Brid® F.O.

- Is suitable for all HP Versatile Link (Horizontal Package) transmitters and receivers
- Data rates: Standard 12 Mbit/s, suitable for all common fieldbus systems
- Insert allows integration of HP standard contacts for POF and HCS®* fibres
- Temperature range -40 °C ... +70 °C

Han-Brid® Cu

- For termination of a shielded twisted pair
- Insert for 2x Han D® male or female contacts
- Connection of the shield by means of shielding plate and fixing clamps
- Connection of the device side can be realized either by a printed circuit board as a modular version or as part of the appliance PCB
- Insert for bulkhead mounted housing or the coupling housing are always equipped with a screening spring

Bus Terminator

- Active bus terminator in male and female version
- Standard Han® 3 A hoods and housings
- Power supply to the termination network via electrical contacts of Han-Brid®
- Integrated, galvanically separated DC/DC converter 24 V / 5 V

Han-Brid® Quintax 3 A

- Possibility to terminate shielded four/eight wires conductors (2 pair STP)
- Possibility to terminate Coax cable with large diameter
- Suitable for all 4-wire bus systems
- Suitable for shielded cable conductor diameter 3 – 9.5 mm
- Transmission of shielding separately from the hood's ground
- Connections are carried out acc. to DIN EN 50 173, Cat. 5
- Temperature range -40 °C ... +70 °C

Han-Brid® RJ45 C

- Suitable for standard RJ 45 Plug and Jack, shielded version
- Connections provided for conductors acc. to DIN EN 50 173, Cat. 5
- Termination from the device side is carried out via a PCB, two versions are possible: modular version or as part of the appliance PCB
- Assembly with standard tools
- Insert for 2 Han-D® male or female contacts offers the combination with electrical bus connector
- Rated current 10 A
- Rated voltage 24 V
- termination side 0.14 - 2.5 mm²

Han-Brid® USB

- Insert for all Han® 3 A hoods and housings
- Hood with glued sealing
- Simple and low-cost termination via insert of a patch cable
- Strain-relief via cable tie

Han-Brid® FireWire

- Insert for all Han® 3 A hoods and housings
- Hood with glued sealing
- Simple and low-cost termination via insert of a patch cable
- Strain-relief via cable tie
- Compatible to IEEE 1394

Han® 4 A SC

- Suitable with housings, size Han® 3 A including versions Han® M, Han® EMV and Han® HPR
- Degree of protection up to IP 68
- For fibre optic SC contacts; up to 4 SC contacts per connector
- For 1 mm POF
- For Multimode fibre 50 - 62.5 / 125 µm and Single-mode fibre 9 / 125 µm
- Full ceramic sleeves for a minimal insertion loss

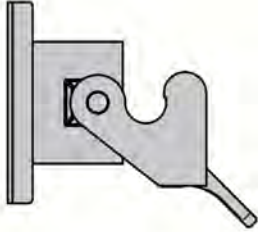
* HCS® = Hard Clad Silica (is registered trade mark of the SpecTran Corporation)

Overview (Sample: Han-Brid® Cu)

Thermoplastic
 09 20 003 0320 (light grey)
 09 20 003 0327 (black)

Metal
 09 20 003 0301

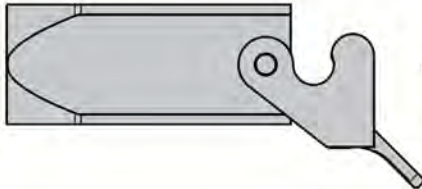
EMC
 09 62 003 0301



Thermoplastic
 19 20 003 0720 (light grey)
 19 20 003 0727 (black)

Metal
 19 20 003 1750

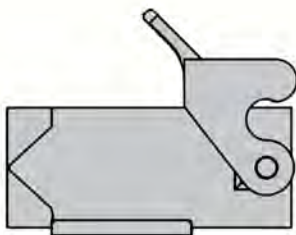
EMC
 19 62 003 1750



Thermoplastic
 19 20 003 0220 (light grey)
 19 20 003 0227 (black)

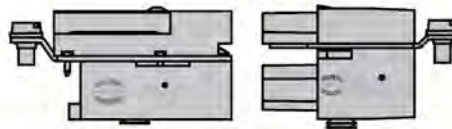
Metal
 19 20 003 1250

EMC
 19 62 003 1250



Device side
 09 12 006 2611
 09 12 006 2695
 09 12 006 2694

Cable side
 09 12 006 3111



Thermoplastic
 19 20 003 0423 (light grey)
 19 20 003 0426 (black)

Metal
 19 20 003 1443

EMC
 19 62 003 1443



Device side
 09 12 006 2701
 09 12 006 2795
 09 12 006 2794

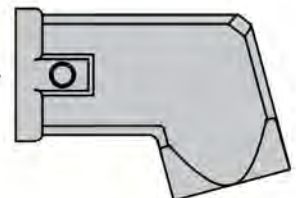
Cable side
 09 12 006 3001



Thermoplastic
 19 20 003 0623 (light grey)
 19 20 003 0627 (black)

Metal
 19 20 003 1643

EMC
 19 62 003 1643



Han-Brid

Overview (Sample: Han-Brid® RJ45 C)

Thermoplastic
 09 20 003 0320 (light grey)
 09 20 003 0327 (black)

Metal
 09 20 003 0301

EMC
 09 62 003 0301

Device side
 09 12 003 2770
 09 12 003 2774
 09 12 003 2776

Cable side
 09 12 003 3011
 09 12 003 3021
 09 12 003 3031

Thermoplastic
 19 20 003 0423 (light grey)
 19 20 003 0427 (black)

Metal
 09 20 003 1443

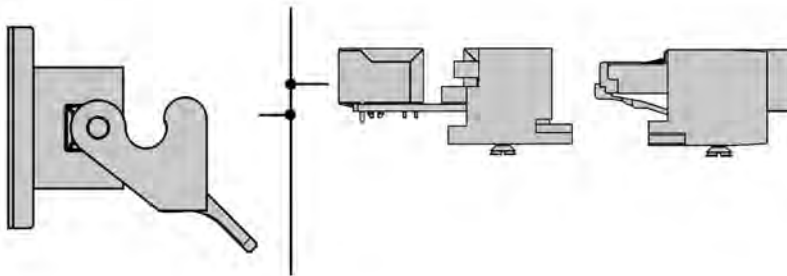
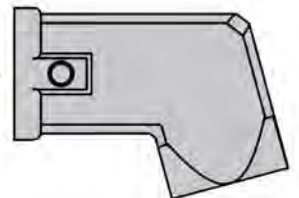
EMC
 19 62 003 1443



Thermoplastic
 19 20 003 0623 (light grey)
 19 20 003 0627 (black)

Metal
 19 20 003 1643

EMC
 19 62 003 1643



Features

- For termination of a shielded twisted pair
- Insert for 2x Han D® male or female contacts
- Connection of the shield by means of shielding plate and fixing clamps
- Connection of the device side can be realized either by a printed circuit board as a modular version or as part of the appliance PCB
- Insert for bulkhead mounted housing or the coupling housing are always equipped with a screening spring
- Active bus terminator in standard Han® 3 A hoods and housings
- Power supply to the termination network via electrical contacts of Han-Brid®
- Integrated, galvanically separated DC/DC converter 24 V / 5 V

Technical characteristics

Contacts	2, 6
Electrical data acc. to IEC 61984	10 A 50 V 0.8 kV 3
Rated current	10 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (hoods/housings)	thermoplastic, metal

Specifications and approvals

IEC 61984



Number of contacts

2

50 V
10 A
+ 4 electrical contacts 10 A + option for PE




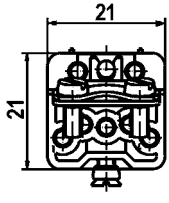
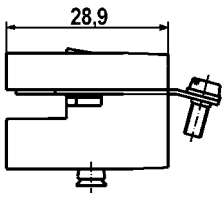

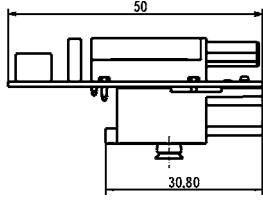
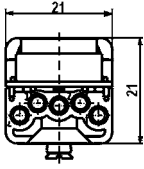
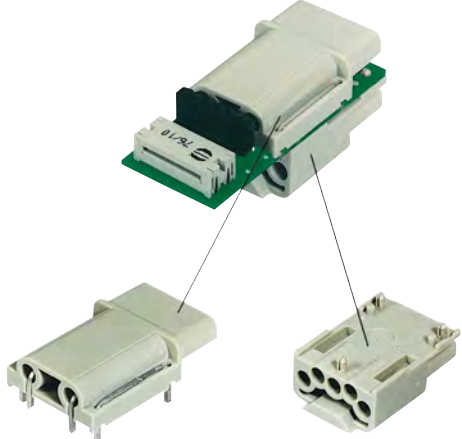
Identification	Part number		Drawing Dimensions in mm
	male	female	
Han-Brid®, Hybrid field bus connector, device side	09 12 006 2611		 Also available as single parts: 09 12 002 2611 Upper part, loaded 09 12 002 3011 Upper part, unloaded 09 12 004 3011 Lower part, unloaded
Han-Brid®, Hybrid field bus connector, cable side		09 12 006 3111	 Contact arrangement (view from termination side)

Number of contacts

2

50 V
10 A
+ 4 electrical contacts 10 A + option for PE



Identification		Part number		Drawing Dimensions in mm	
		male	female		
Han-Brid®, Hybrid field bus connector, cable side		09 12 006 3001			
Han-Brid®, Hybrid field bus connector, device side			09 12 006 2701		
					
				Also available as single parts: 09 12 002 2701 Upper part, loaded 09 12 002 3101 Upper part, unloaded 09 12 004 3101 Lower part, unloaded	

Han-Brid

Number of contacts

6

50 V
10 A
+ 4 electrical contacts 10 A + option for PE



Identification	Part number		Drawing Dimensions in mm
	male	female	
Han-Brid®, Bus terminator, Plastic hoods/housings	09 12 006 2691	09 12 006 2791	
Han-Brid®, Bus terminator, Hoods/Housings, metal	09 12 006 2692	09 12 006 2792	
Han-Brid®, Panel feed through, with cage clamp	09 12 006 2695	09 12 006 2795	
Han-Brid®, Coupling / Panel feed through	09 12 006 2694	09 12 006 2794	<p>X= Cutting off the fin allows the use in cable to cable housings.</p>

Han-Brid

Features

- Is suitable for all HP Versatile Link (Horizontal Package) transmitters and receivers
- Data rates: Standard 12 Mbit/s, suitable for all common field-bus systems
- Insert allows integration of HP standard contacts for POF and HCS® fibres

Technical characteristics

Contacts	2
Electrical data acc. to IEC 61984	10 A 50 V 0.8 kV 3
Rated current	10 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 70 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals

IEC 61984


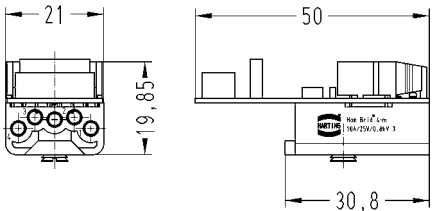

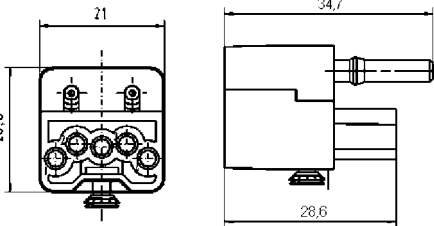

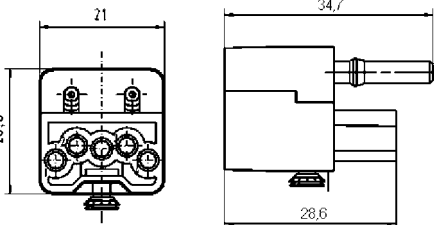

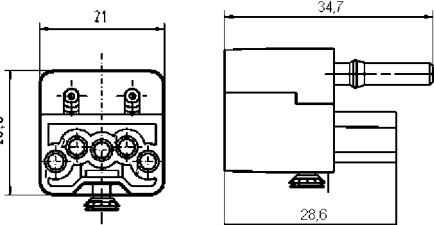


Number of contacts

2

50 V
10 A
+ 4 electrical contacts 10 A + option for PE



Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han-Brid®, Hybrid field bus connector, device side, F.O. (f) + Han D® (m), with PCB</p> 	09 12 004 2611		 <p>Contact arrangement (view from termination side) Also available as single parts: 09 12 004 3011 Lower part, unloaded</p>
<p>Han-Brid®, Hybrid field bus connector, cable side, F.O. (m) + Han D® (f), for POF</p> 		09 12 004 2711	 <p>09 12 004 3111 unloaded</p>
<p>Han-Brid®, Hybrid field bus connector, cable side, F.O. (m) + Han D® (f), for POF crimpless</p> 		09 12 004 2713	 <p>09 12 004 3113 unloaded</p>
<p>Han-Brid®, Hybrid field bus connector, cable side, F.O. (m) + Han D® (f), for HCS® fibre</p> 		09 12 004 2716	 <p>09 12 004 3116 unloaded</p>

Number of contacts

2

50 V
10 A
+ 4 electrical contacts 10 A + option for PE



Identification	Part number		Drawing Dimensions in mm
	male	female	
Han-Brid®, Hybrid field bus connector, cable side, F.O. (m) + Han D® (m), for POF	09 12 004 2601		<p>09 12 004 3001 unloaded</p>
for POF			
Han-Brid®, Hybrid field bus connector, cable side, with F.O. contacts, F.O. (m) + Han D® (m), for POF crimpless	09 12 004 2603		<p>09 12 004 3003 unloaded</p>
Han-Brid®, Hybrid field bus connector, cable side, F.O. (m) + Han D® (m), for HCS® fibre	09 12 004 2606		<p>09 12 004 3006 unloaded</p>
Han-Brid®, Hybrid field bus connector, device side, F.O. (f) + Han D® (f), with PCB		09 12 004 2701	<p>Also available as single parts: 09 12 004 3101 Lower part, unloaded</p>

Han-Brid

Features

- Possibility to terminate shielded four/eight wires conductors (2 pair STP)
- Possibility to terminate Coax cable with large diameter
- Suitable for all 4-wire bus systems
- Suitable for shielded cable conductor diameter 3 – 9.5 mm
- Transmission of shielding separately from the hood's ground
- Connections are carried out acc. to EN 50173, Cat. 5

Technical characteristics

Contacts	1
Insulation resistance	≥10 ¹⁰ Ohm
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 61984
IEC 60664-1



Details

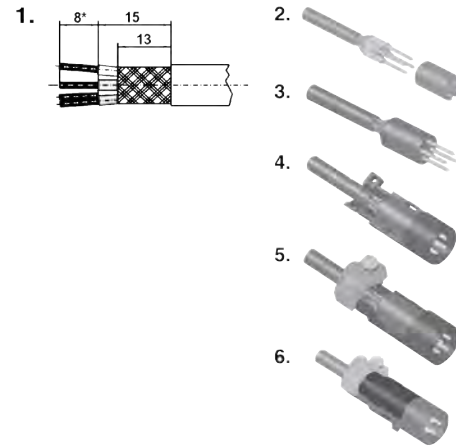
Crimping tools see chapter 90

Details

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Assembly instructions




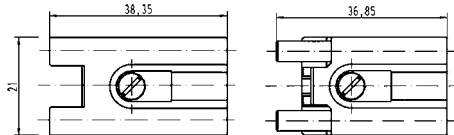

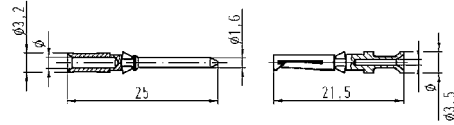
1. Strip cable acc. to drawing 1 and fold the shielding over the cable.
2. Crimp Han D® contacts onto the wires.
3. Insert Han D® contacts into corresponding cavities of insulator until they are snapped in.
4. Fit the insert including the cable into the opened shielded bushing. The coding pin of the shielded bushing has to meet the groove of the insulator.
5. Clamp the tilt over the shielding onto the cable by means of the special clamp (small opening for cable diameter of 3 - 6 mm, large opening for cable diameter of 6 - 9.5 mm).
6. Check the wiring. Close the shielded bushing with the cover and insert it into the corresponding cavity of the Quintax Module as usual.

Number of contacts

1

+ shielding + 2 power contacts



Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																					
		male	female																						
Han-Brid®, Han-Quintax® insert, Crimp terminal 		09 15 003 3001	09 15 003 3101																						
Han D®, Crimp contact, gold plated contacts, contact resistance ≤3 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5	09 15 000 6124 09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121 09 15 000 6126	09 15 000 6224 09 15 000 6223 09 15 000 6225 09 15 000 6222 09 15 000 6221 09 15 000 6226	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
Wire gauge	∅	Stripping length																							
0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																							
0.5 mm ² AWG 20	1.1 mm	8 mm																							
0.75 mm ² AWG 18	1.3 mm	8 mm																							
1 mm ² AWG 18	1.45 mm	8 mm																							
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							

Han-Brid

Features

- Shielding bus separate from housing potential
- Suitable for the transmission of sensitive signals (e.g. bus signals)
- The four pole Han® Quintax contact is suitable for Ethernet Cat. 5e and PROFIBUS when diagonally wiring of the data pairs

Technical characteristics

Electrical data acc. to IEC 61984	10 A 50 V 0.8 kV 3
Rated current	10 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Limiting temperatures	-40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0
Material (insert)	zinc alloy
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984


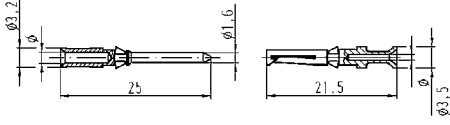

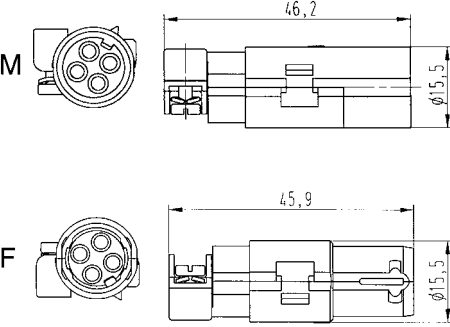


Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm																					
		male	female																						
Han D® Crimp contact, gold plated contacts, contact resistance ≤3 mOhm 	0.14–0.37	09 15 000 6124	09 15 000 6224	 <table border="1" data-bbox="1042 1440 1493 1597"> <thead> <tr> <th>Wire gauge</th> <th>Ø</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	Ø	Stripping length	0.14-0.37 mm² AWG 26-22	0.9 mm	8 mm	0.5 mm² AWG 20	1.1 mm	8 mm	0.75 mm² AWG 18	1.3 mm	8 mm	1 mm² AWG 18	1.45 mm	8 mm	1.5 mm² AWG 16	1.75 mm	8 mm	2.5 mm² AWG 14	2.25 mm	6 mm
	Wire gauge	Ø	Stripping length																						
	0.14-0.37 mm² AWG 26-22	0.9 mm	8 mm																						
	0.5 mm² AWG 20	1.1 mm	8 mm																						
	0.75 mm² AWG 18	1.3 mm	8 mm																						
	1 mm² AWG 18	1.45 mm	8 mm																						
1.5 mm² AWG 16	1.75 mm	8 mm																							
2.5 mm² AWG 14	2.25 mm	6 mm																							
0.5	09 15 000 6123	09 15 000 6223																							
0.75	09 15 000 6125	09 15 000 6225																							
1	09 15 000 6122	09 15 000 6222																							
1.5	09 15 000 6121	09 15 000 6221																							
2.5	09 15 000 6126	09 15 000 6226																							
Han-Quintax® contact, 4 + shielding, for Han D® crimp contacts  <p>Please order crimp contacts separately.</p>		09 15 004 3013	09 15 004 3113																						

50 V
5 A

Technical characteristics

Electrical data acc. to IEC 61984	5 A 50 V 0.8 kV 3
Rated current	5 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Limiting temperatures	-40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0


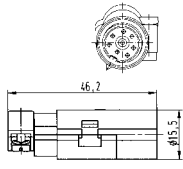
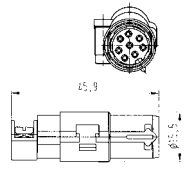

Technical characteristics

Material (insert) polycarbonate

Specifications and approvals

IEC 61984
IEC 60664-1



Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm												
		male	female													
Han-Modular®, Han-Quintax® High Density contact, 8 + shielding, for Han® D-Sub contacts  Please order contacts separately.		09 15 008 3013	09 15 008 3113	M  F 												
Han® D-Sub crimp contact, turned contacts 	0.09–0.25 0.13–0.33 0.25–0.52	09 67 000 7576 09 67 000 5576 09 67 000 8576	09 67 000 7476 09 67 000 5476 09 67 000 8476	<table border="1"> <thead> <tr> <th>Wire gauge</th> <th>max. insulation diameter</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.09-0.25 mm²</td> <td>1.7</td> <td>4 mm</td> </tr> <tr> <td>0.13-0.33 mm²</td> <td>1.7</td> <td>4 mm</td> </tr> <tr> <td>0.25-0.52 mm²</td> <td>1.7</td> <td>4 mm</td> </tr> </tbody> </table>	Wire gauge	max. insulation diameter	Stripping length	0.09-0.25 mm²	1.7	4 mm	0.13-0.33 mm²	1.7	4 mm	0.25-0.52 mm²	1.7	4 mm
Wire gauge	max. insulation diameter	Stripping length														
0.09-0.25 mm²	1.7	4 mm														
0.13-0.33 mm²	1.7	4 mm														
0.25-0.52 mm²	1.7	4 mm														

Technical characteristics

Electrical data acc. to IEC 61984	10 A 50 V 0.8 kV 3
Rated current	10 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Limiting temperatures	-40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0
Material (insert)	zinc alloy
Material (contact)	copper alloy

Specifications and approvals


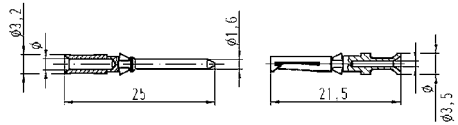

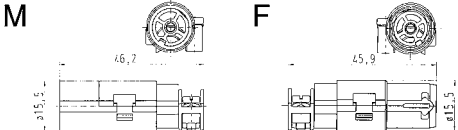
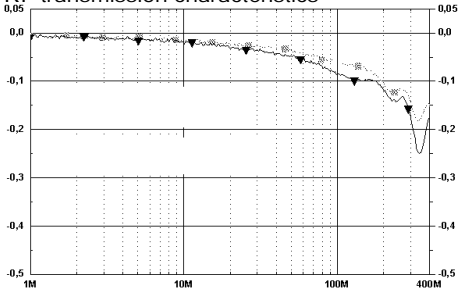
IEC 60664-1
IEC 61984

Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																					
		male	female																						
Han D®, Crimp contact, gold plated contacts, contact resistance ≤3 mOhm 	0.14–0.37	09 15 000 6124	09 15 000 6224	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>∅</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm² AWG 26-22</td> <td>0.9 mm</td> <td>8 mm</td> </tr> <tr> <td>0.5 mm² AWG 20</td> <td>1.1 mm</td> <td>8 mm</td> </tr> <tr> <td>0.75 mm² AWG 18</td> <td>1.3 mm</td> <td>8 mm</td> </tr> <tr> <td>1 mm² AWG 18</td> <td>1.45 mm</td> <td>8 mm</td> </tr> <tr> <td>1.5 mm² AWG 16</td> <td>1.75 mm</td> <td>8 mm</td> </tr> <tr> <td>2.5 mm² AWG 14</td> <td>2.25 mm</td> <td>6 mm</td> </tr> </tbody> </table>	Wire gauge	∅	Stripping length	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm	0.5 mm ² AWG 20	1.1 mm	8 mm	0.75 mm ² AWG 18	1.3 mm	8 mm	1 mm ² AWG 18	1.45 mm	8 mm	1.5 mm ² AWG 16	1.75 mm	8 mm	2.5 mm ² AWG 14	2.25 mm	6 mm
	Wire gauge	∅	Stripping length																						
	0.14-0.37 mm ² AWG 26-22	0.9 mm	8 mm																						
	0.5 mm ² AWG 20	1.1 mm	8 mm																						
	0.75 mm ² AWG 18	1.3 mm	8 mm																						
	1 mm ² AWG 18	1.45 mm	8 mm																						
1.5 mm ² AWG 16	1.75 mm	8 mm																							
2.5 mm ² AWG 14	2.25 mm	6 mm																							
0.5	09 15 000 6123	09 15 000 6223																							
0.75	09 15 000 6125	09 15 000 6225																							
1	09 15 000 6122	09 15 000 6222																							
1.5	09 15 000 6121	09 15 000 6221																							
2.5	09 15 000 6126	09 15 000 6226																							
Coaxial contact, 1 + shielding, for Han D® crimp contacts, 75 Ohm 		09 15 001 3013	09 15 001 3113	 RF transmission characteristics  <p> ■ 75 Ohm cable ▼ 75 Ohm cable with Han D® Coax </p>																					
Please order crimp contacts separately.																									

Technical characteristics

Electrical data acc. to IEC 61984	16 A 50 V 0.8 kV 3
Rated current	16 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Limiting temperatures	-40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0
Material (insert)	zinc alloy
Material (contact)	copper alloy

Specifications and approvals


IEC 61984
IEC 60664-1

Details


Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

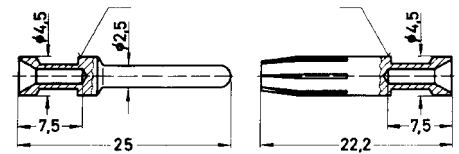
Identification	Wire cross section (mm ²)	Part number	
		male	female
Han E®, Crimp contact, gold plated contacts, contact resistance ≤1 mOhm 	0.14–0.37	09 33 000 6117	09 33 000 6217
	0.5	09 33 000 6122	09 33 000 6222
	0.75	09 33 000 6115	09 33 000 6215
	1	09 33 000 6118	09 33 000 6218
	1.5	09 33 000 6116	09 33 000 6216
	2.5	09 33 000 6123	09 33 000 6223
	4	09 33 000 6119	09 33 000 6221
	5.5	09 33 000 6139	09 33 000 6239

Coaxial contact,
1 + shielding,
for Han E® crimp contacts,
50 Ohm


 Please order crimp contacts
separately.

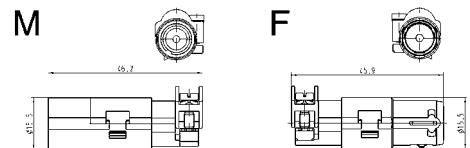
09 15 001 3023 09 15 001 3123

Drawing
Dimensions in mm



Identification	Wire gauge	Stripping length
no groove	0.14-0.37 mm ² AWG 26-22	7.5 mm
no groove	0.5 mm ² AWG 20	7.5 mm
1 groove*	0.75 mm ² AWG 18	7.5 mm
1 groove	1 mm ² AWG 18	7.5 mm
2 grooves	1.5 mm ² AWG 16	7.5 mm
3 grooves	2.5 mm ² AWG 14	7.5 mm
wide groove	3 mm ² AWG 12	7.5 mm
no groove	4 mm ² AWG 12	7.5 mm

* on the back crimp collar



Han E® Coax with RG 213 cable (2.5 mm ²)	200 MHz	500 MHz	1.0 GHz	1.2 GHz	1.5 GHz	2.0 GHz	2.5 GHz
Return loss [dB]	23.8	21.1	>18.7	>17.7	>16.4	>14.1	>12.0
Attenuation [dB]	0.07	0.11	0.17	0.2	<0.23	<0.53	<2.0

Features

- Suitable for standard RJ 45 Plug and Jack, shielded version
- Connections are carried out acc. to EN 50173, Cat. 5
- Connection of the device side can be realized either by a printed circuit board as a modular version or as part of the appliance PCB
- Assembly with standard tools
- Insert for 2 Han-D® male or female contacts offers the combination with electrical bus connector

Technical characteristics

Contacts	1 x RJ45
Electrical data acc. to IEC 61984	10 A 24 V 0.8 kV 3
Rated current	10 A
Rated voltage	24 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals


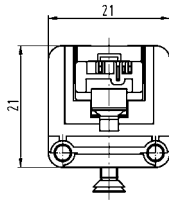
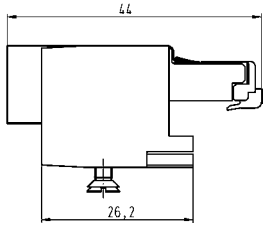

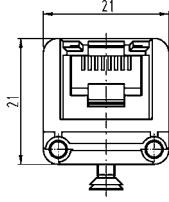
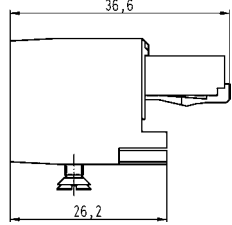

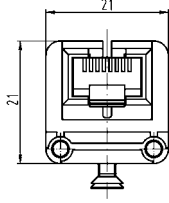
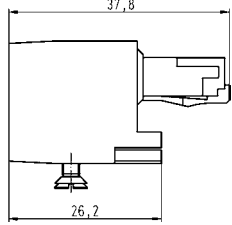

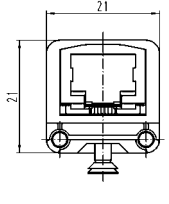
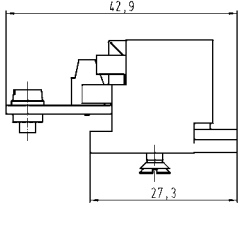

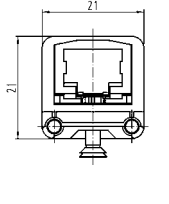
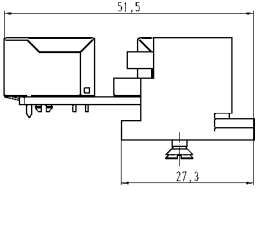
IEC 61984



Number of contacts

1 x RJ45

24 V
10 A
+ 2 electrical contacts 10 A

Identification	Part number		Drawing	
	male	female	Dimensions in mm	
Han-Brid®, Hybrid network connector, with RJ Industrial 	09 12 003 3011			
Han-Brid®, Hybrid network connector, with Stewart RJ45 	09 12 003 3021			
Han-Brid®, Hybrid network connector, with HIROSE RJ45 	09 12 003 3031			
Han-Brid®, Hybrid network connector, Panel feed through, with 4 pole terminal block 		09 12 003 2770		
Han-Brid®, Hybrid network connector, Panel feed through, straight 		09 12 003 2774		

Han-Brid

Identification	Part number		Drawing Dimensions in mm
	male	female	
Han-Brid®, Hybrid network connector, Panel feed through, angled		09 12 003 2776	



50 V
1 A
+ USB

Features

- Insert for all Han® 3 A hoods with glued sealing
- Simple and cost effective termination by plug in patch cable
- Cable tie strain relief


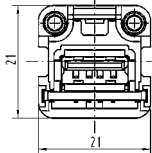
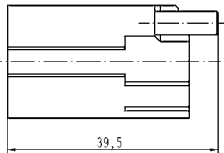

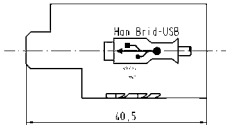
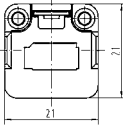
Technical characteristics

Electrical data acc. to IEC 61984	1 A 50 V 0.8 kV 3
Rated current	1 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals

IEC 60664-1
IEC 61984



Identification	Part number		Drawing	
	male	female	Dimensions in mm	
Han-Brid®, USB, device side, contact resistance ≥4 mOhm 	09 12 001 2794			
Han-Brid®, USB, cable side, contact resistance ≥4 mOhm 		09 12 001 3091		

Han-Brid

50 V
1 A
+ FireWire

Features

- Insert for all Han® 3 A hoods with glued sealing
- Simple and cost effective termination by plug in patch cable
- Cable tie strain relief
- Compatibel to IEEE 1394


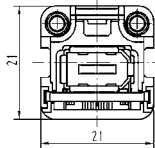
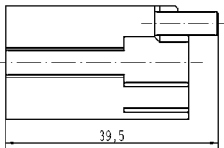

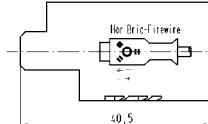
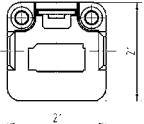
Technical characteristics

Electrical data acc. to IEC 61984	1 A 50 V 0.8 kV 3
Rated current	1 A
Rated voltage	50 V
Rated impulse voltage	0.8 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals

IEC 60664-1
IEC 61984



Identification	Part number		Drawing	
	male	female	Dimensions in mm	
Han-Brid®, FireWire, device side, contact resistance ≥4 mOhm 	09 12 001 2774			
Han-Brid®, FireWire, cable side, contact resistance ≥4 mOhm 		09 12 001 3071		

Features

- Suitable with housings, size Han® 3 A including versions Han® M, Han® EMV and Han® HPR
- Degree of protection up to IP 68
- Suitable for HARTING SC contacts
- For Multimode fibre 50 - 62.5 / 125 µm and Singlemode fibre 9 / 125 µm
- Full ceramic sleeves for a minimal insertion loss
- 1 mm POF

Technical characteristics

Contacts	4
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 85 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

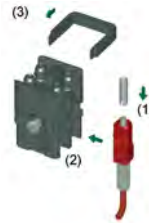
Specifications and approvals



Details

Assembly instructions

Female module

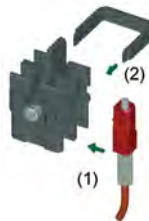


Assemble the SC contact

- ① Push the centering ferrule (included in delivery) on the SC contact
- ② Push the SC contact from the side into the relevant insert
- ③ Push the spring clip over the contact body.

Assembly instructions

Male module



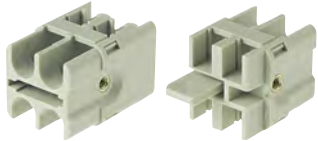
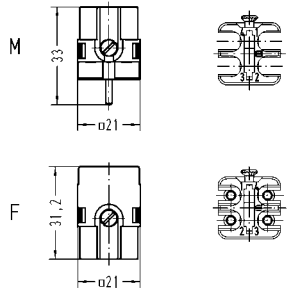

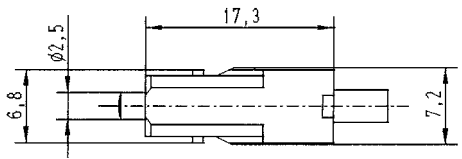
Assemble the SC contact

- ① Push the SC contact from the side into the relevant insert
- ② Push the spring clip over the contact body.

Number of contacts

4



Identification	Part number		Drawing Dimensions in mm
	male	female	
Han® SC module, for F.O.  Please order contacts separately.	09 20 004 4701	09 20 004 4711	 Contact arrangement (view from termination side) The female inserts are equipped with centering ferrules. 4 ferrules are included in delivery range.
SC contact  for GI fibre 50/125 µm or 62.5/125 µm ceramic ferrule	20 10 125 5211	20 10 125 5211	
SC contact for single mode fibre 9/125 µm	20 10 125 5220	20 10 125 5220	
SC contact for SI fibre (HCS®) 200/230 µm	20 10 230 5211	20 10 230 5211	
SC contact, with crimp technique, for 1 mm POF	20 10 001 5211	20 10 001 5211	
SC contact, with quick assembly, for 1 mm POF	20 10 001 5217	20 10 001 5217	

Features

- Metal hoods/housings for industrial applications
- with glued seal

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Flammability (locking lever) acc. to UL 94	V 0
Flammability (seal) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP44 / IP67 is achieved with seal screw 09 20 000 9918
Material (hoods/housings)	zinc die-cast
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 7037 (grey)
Material (locking lever)	steel, zinc-plated
Material (seal)	NBR


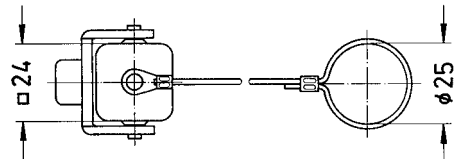

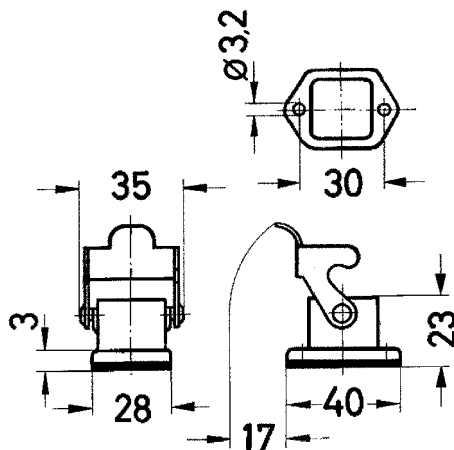

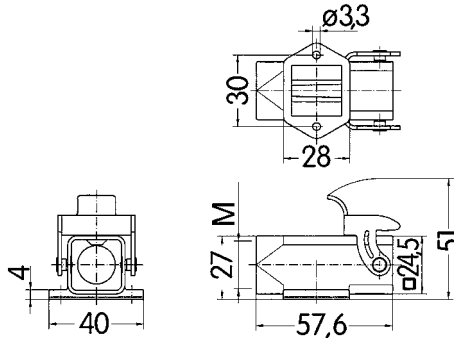

Specifications and approvals

ⓄL


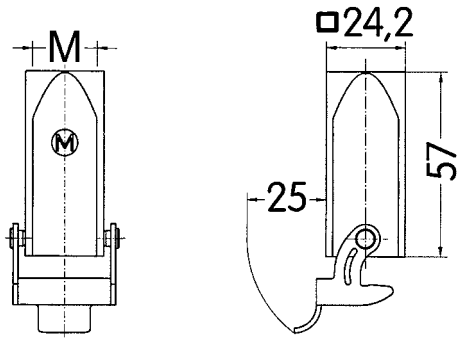

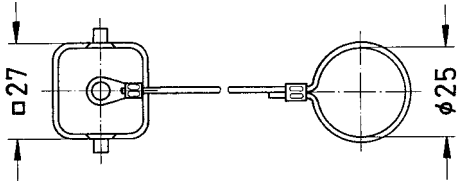

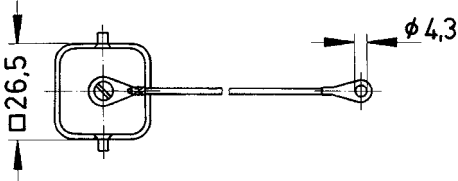

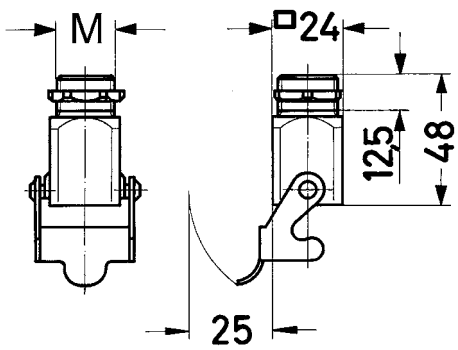
Metal hoods/housings for industrial applications
double locking lever

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han A® , Hoods, for Han-Brid®, top entry, with glued sealing	1xM20	19 20 003 1443	
Han A® , Hoods, for Han-Brid®, side entry, with glued sealing	1xM20	19 20 003 1643	
Han A® , Hood with integrated cable gland, for Han-Brid®, top entry, with glued sealing	6...12 mm	19 20 003 1423	
Han A® , Hood with integrated cable gland, top entry, with glued sealing	6...12 mm	19 20 003 1425	

Han-Brid

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han A®, Protection cover for hoods, for mounted male insert or for mounted Han-Brid® insert, metal, with securing flex</p> 		09 20 003 5422	
<p>Han A®, Bulkhead mounted housings, straight</p> 		09 20 003 0301	 <p>Panel cut out 22 x 22 mm</p>
<p>Han A®, Surface mounted housings, top entry, open bottom</p> 	1xM20	19 20 003 1250	 <p>Panel cut out 22 x 22 mm</p>
<p>Han A®, Surface mounted housings, top entry, bottom closed</p> 	1xM20	19 20 003 1252	

Han-Brid

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han A®, Cable to cable housings, top entry</p> 	1xM20	19 20 003 1750	
<p>Han A®, Protection cover for cable to cable housings, for mounted female insert or for mounted Han-Brid® insert, metal, with securing flex, with sealing</p> 		09 20 003 5427	
<p>Han A®, Protection cover for housings, for mounted female insert or for mounted Han-Brid® insert, metal, with securing flex, with sealing</p> 		09 20 003 5425	
<p>Han A®, Screw mounted housings, top entry</p> 	1xM20	19 20 003 1150	

Features

- Plastic hoods/housings for industrial applications
- with glued seal

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Flammability (locking lever) acc. to UL 94	V 0
Flammability (seal) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP44 / IP67 is achieved with seal screw 09 20 000 9918
Material (hoods/housings)	polycarbonate
Colour (hoods/housings)	RAL 7032 (light grey), RAL 9005 (black)
Material (locking lever)	polyamide
Colour (locking lever)	RAL 7032 (light grey), RAL 9005 (black)
Material (seal)	NBR


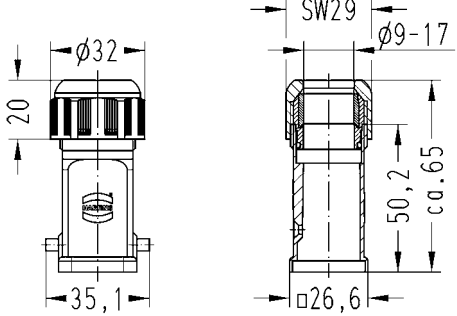

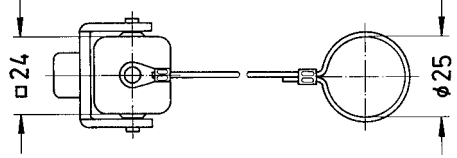

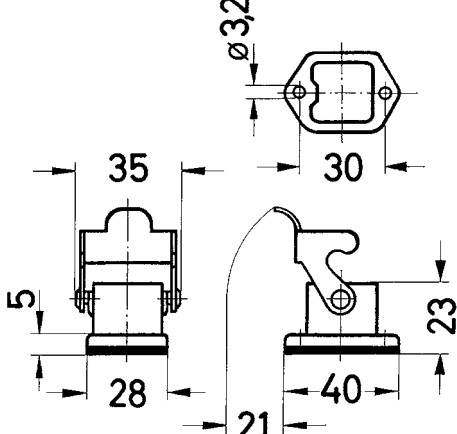

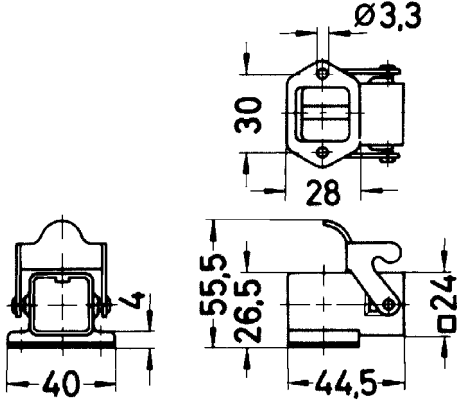
Specifications and approvals

ⓂGL


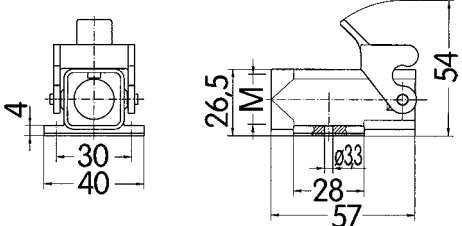

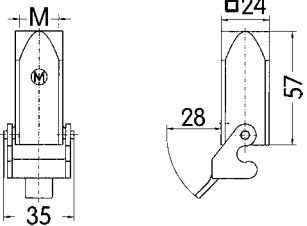

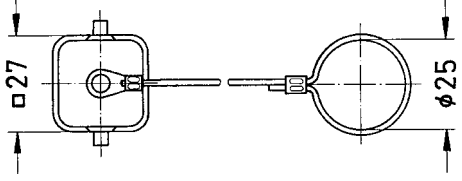

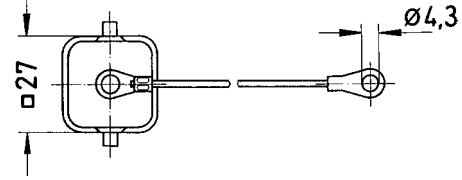
Plastic hoods/housings for industrial applications
double locking lever


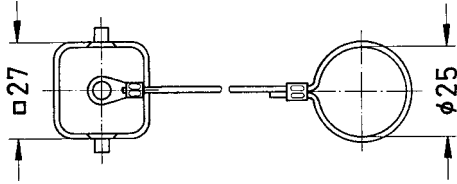


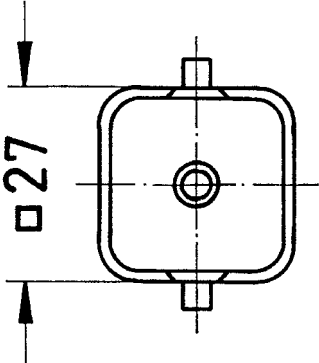
Identification	Cable entry	Part number	Drawing Dimensions in mm
Han A® , Hoods, for Han-Brid®, top entry, with glued sealing	1xM20	19 20 003 0423	
Han A® , Hoods, for Han-Brid®, top entry, with glued sealing, black	1xM20	19 20 003 0426	
Han A® , Hoods, for Han-Brid®, side entry, with glued sealing	1xM20	19 20 003 0623	
Han A® , Hoods, for Han-Brid®, side entry, with glued sealing, black	1xM20	19 20 003 0626	

Han-Brid

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han A®, Hood with integrated cable gland, top entry, with glued sealing</p> 	9...17 mm	19 20 003 0413	
<p>Han A®, Protection cover for hoods, for mounted male insert or for mounted Han-Brid® insert, plastic, with securing flex</p> 		09 20 003 5442	
<p>Han A®, Bulkhead mounted housings, straight</p> 		09 20 003 0320	 <p>Panel cut out 22 x 22 mm</p>
<p>Han A®, Bulkhead mounted housings, angled</p> 		09 20 003 0820	 <p>Panel cut out 22 x 22 mm</p>

Han-Brid

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han A® , Bulkhead mounted housings, straight, black Han A® , Bulkhead mounted housings, angled, black		09 20 003 0327 09 20 003 0827	
Han A® , Surface mounted housings, top entry 	1xM20	19 20 003 0220	 <p>Panel cut out 22 x 22 mm</p>
Han A® , Surface mounted housings, top entry, black	1xM20	19 20 003 0227	
Han A® , Cable to cable housings, top entry 	1xM20	19 20 003 0720	
Han A® , Cable to cable housings, top entry, black	1xM20	19 20 003 0727	
Han A® , Protection cover for cable to cable housings, for mounted female insert, plastic, with sealing, with securing flex 		09 20 003 5447	
Han A® , Protection cover for housings, for mounted female insert, plastic, with sealing, with securing flex 		09 20 003 5445	

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han A®, Protection cover for housings, for mounted female insert, plastic, with sealing, with securing flex, black</p> 		09 20 003 5449	
<p>Han A®, Protection cover for housings, for mounted female insert or for mounted Han-Brid® insert, plastic, with sealing</p> 		09 20 003 5408	
<p>Han A®, Protection cover, for mounted female insert or for mounted Han-Brid® insert, plastic, with sealing, black</p> 		09 20 003 5409	

Han-Brid

Features

- Hoods/Housings for higher environmental requirements
- with glued seal

Technical characteristics


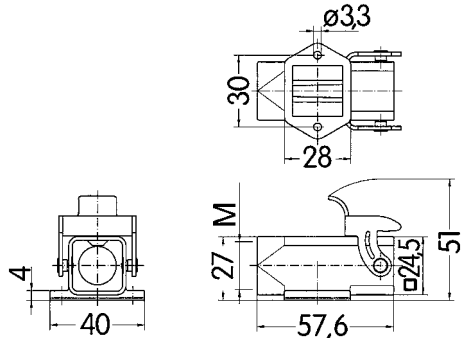

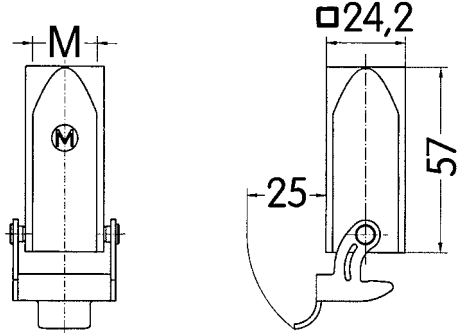
Limiting temperatures	-40 °C ... 125 °C
Flammability (locking lever) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP65 / IP67
Corrosion resistance	ASTM B117-09 (500 h)
Material (hoods/housings)	zinc die-cast
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	stainless steel
Material (seal)	FPM

Specifications and approvals



Hoods/Housings for higher environmental requirements
double locking lever

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® M, Hoods, top entry, with glued sealing	1xM20	19 37 003 1443	
Han® M, Hoods, side entry, with glued sealing	1xM20	19 37 003 1643	
Han- Brid Han® M, Bulkhead mounted housings, straight		09 37 003 0301	<p>Panel cut out 22 x 22 mm</p>

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® M, Surface mounted housings, top entry 	1xM20	19 37 003 1250	 <p>Panel cut out 22 x 22 mm</p>
Han® M, Cable to cable housings, top entry 	1xM20	19 37 003 1750	

Features

- Hoods/Housings for higher EMC requirements
- with glued seal


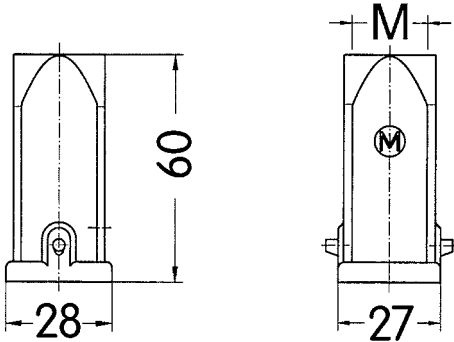

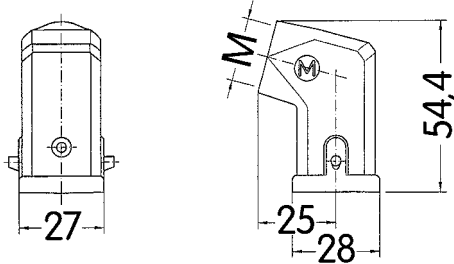

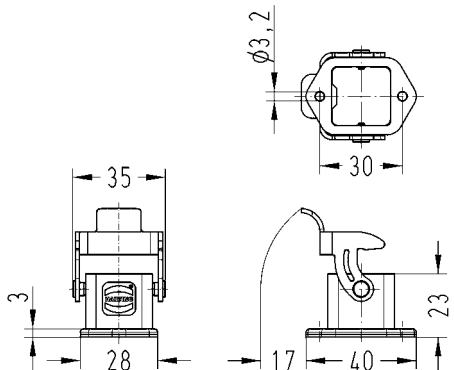
Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (locking lever) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP44 / IP67 is achieved with seal screw 09 20 000 9918
Material (hoods/housings)	zinc die-cast
Surface (hoods/housings)	unpainted, electrical conductive
Material (locking lever)	steel, zinc-plated
Material (seal)	NBR

Specifications and approvals


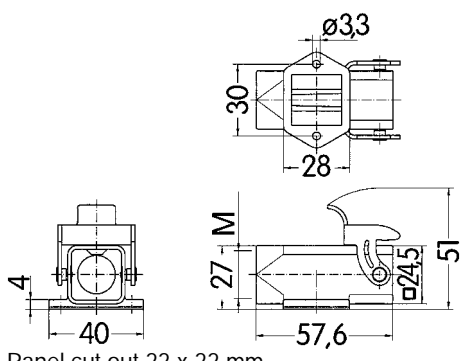

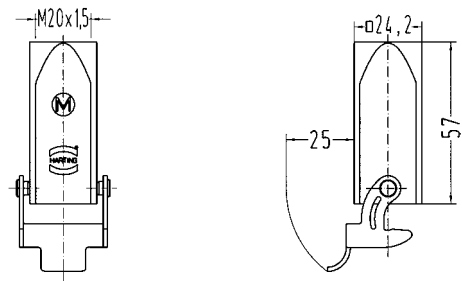


Hoods/Housings for higher EMC requirements
double locking lever

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® EMV, Hoods, top entry, with glued sealing 	1xM20	19 62 003 1443	
Han® EMV, Hoods, side entry, with glued sealing 	1xM20	19 62 003 1643	
Han® EMV, Bulkhead mounted housings, straight 		09 62 003 0301	 <p>Panel cut out 22 x 22 mm</p>

Han-Brid



Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® EMV, Surface mounted housings, top entry 	1xM20	19 62 003 1250	 <p>Panel cut out 22 x 22 mm</p>
Han® EMV, Cable to cable housings, top entry 	1xM20	19 62 003 1750	

Han-Brid

Features

- Han-INOX® hoods/housings for higher corrosion requirements
- with glued seal

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (locking lever) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP44 / IP67 is achieved with seal screw 09 20 000 9918, IP65 / IP67
Material (hoods/housings)	stainless steel
Surface (hoods/housings)	unpainted
Material (locking lever)	stainless steel
Material (seal)	NBR
Material (screwing)	stainless steel


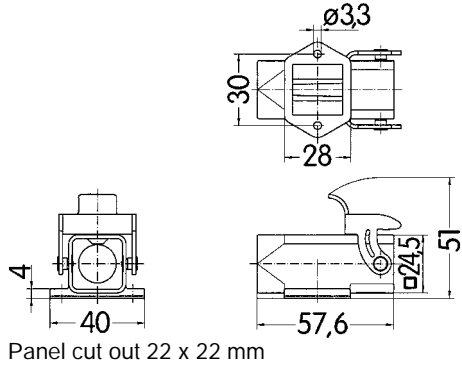

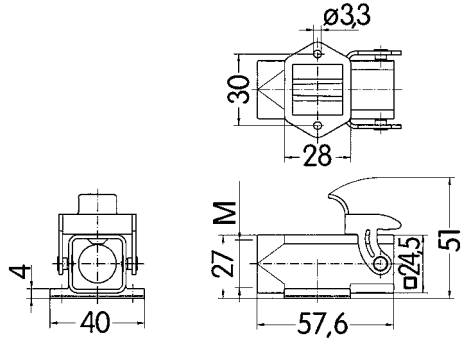

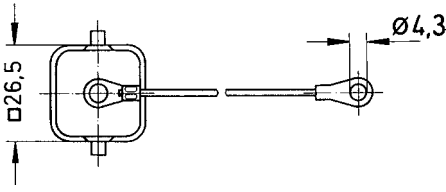

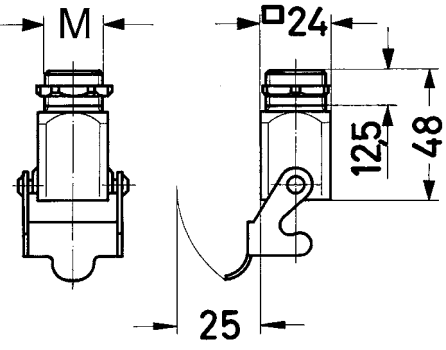
Specifications and approvals



Hoods/Housings for aggressive environmental requirements
double locking lever

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-INOX®, Hoods, top entry, with glued sealing	1xM20	19 44 003 1443	
Han-INOX®, Hoods, side entry, with glued sealing	1xM20	19 44 003 1643	
Han-INOX®, Protection cover for hoods, for mounted male insert or for mounted Han-Brid® insert, metal, with securing flex		19 44 003 5422	
Han-INOX®, Bulkhead mounted housings, straight		19 44 003 0301	<p>Panel cut out 22 x 22 mm</p>

Han-Brid

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-INOX®, Bulkhead mounted housings, angled 		19 44 003 0801	 <p>Panel cut out 22 x 22 mm</p>
Han-INOX®, Surface mounted housings, side entry 	1xM20	19 44 003 1250	
Han-INOX®, Protection cover for housings, for mounted female insert or for mounted Han-Brid® insert, metal, with securing flex 		19 44 003 5425	
Han-INOX®, Screw mounted housings, top entry Range of delivery: 1x M20 stainless steel screw nut 	1xM20	19 44 003 1150	

Han-Brid

Features

- Hoods/Housings for harsh environmental requirements
- Highly EMC resistant
- Screw locking M4
- Field of application: For external electrical interconnections in vehicles, in highly demanding environments and wet areas, as well as for sensitive interconnections that have to be shielded
- Distinguishing feature: colour-coded black, internal seal (RAL 9005)


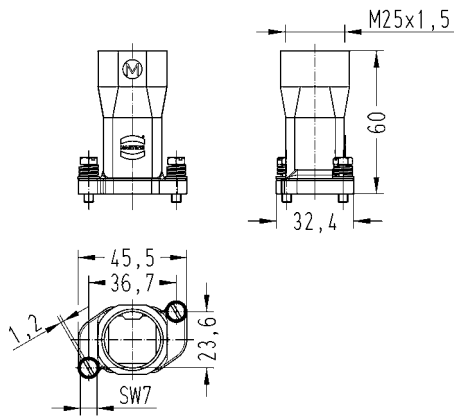
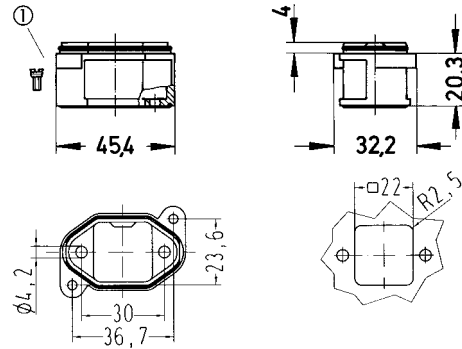
Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Protection class acc. to UL 50	NEMA 4/12, NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP69K
Degree of protection acc. to IEC 60529	IP65 / IP68
Tightening torque (locking)	2 Nm
Corrosion resistance	ASTM B117-09 (500 h)
Material (hoods/housings)	zinc die-cast
Surface (hoods/housings)	powder-coated, chromated
Colour (hoods/housings)	RAL 9005 (black)
Material (seal)	NBR
Material (screwing)	stainless steel


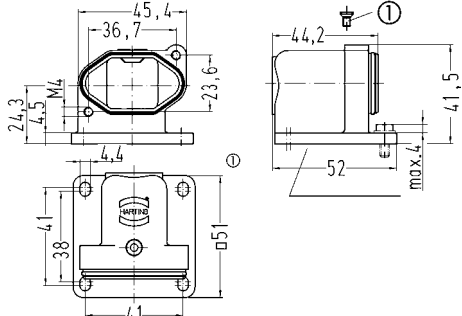

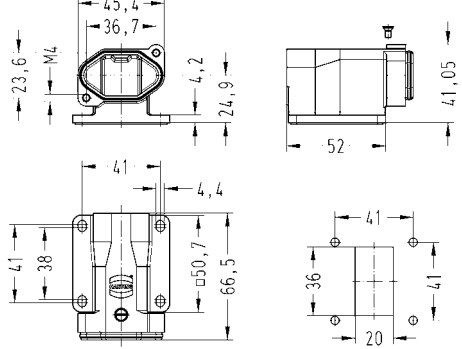

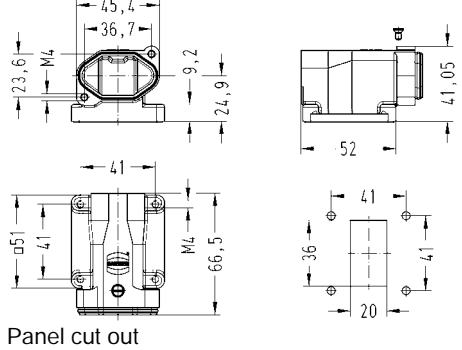
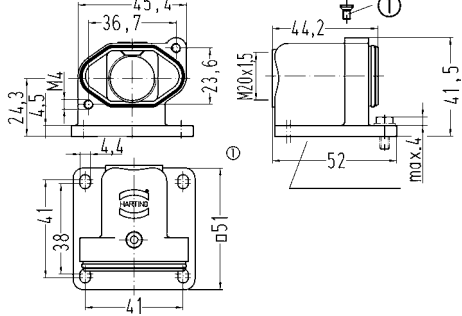
Specifications and approvals




Hoods/Housings for harsh environmental requirements

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Hoods, with sealing screw, top entry, toggle locking</p> <p>Han® HPR, Hoods, with sealing screw, top entry, screw locking</p> 	<p>1xM20</p> <p>1xM20 1xM25</p>	<p>19 40 703 0400</p> <p>19 40 703 0410 19 40 703 0411</p>	
<p>Han® HPR, Bulkhead mounted housings, with sealing screw, toggle locking</p> <p>Han® HPR, Bulkhead mounted housings, with sealing screw, screw locking</p>		<p>09 40 703 0301</p> <p>09 40 703 0311</p>	 <p>Panel cut out 21.3 x 21.3 mm</p> <p>① sealing screw</p>

Han-Brid

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Bulkhead mounted housings, angled, with sealing screw, screw locking</p> 		09 40 703 0950	 <p>Panel cut out 21.3 x 21.3 mm ① sealing screw</p>
<p>Han® HPR, Bulkhead mounted housings, angled, screw locking, long version, feed through hole for fixing screws</p> 		09 40 703 0951	 <p>Panel cut out</p>
<p>Han® HPR, Bulkhead mounted housings, angled, screw locking, long version, tapped blind hole for fixing screws</p> 		09 40 703 0953	 <p>Panel cut out</p>
<p>Han® HPR, Surface mounted housings, angled, with sealing screw, top entry, screw locking, bottom closed</p>	1xM20	19 40 703 0950	 <p>① sealing screw</p>


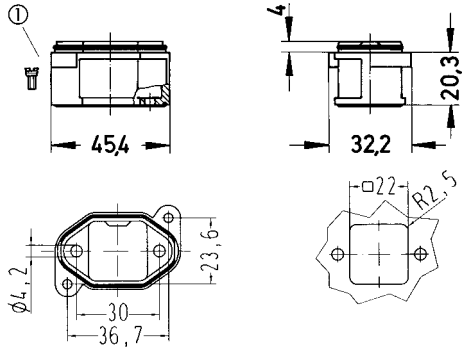

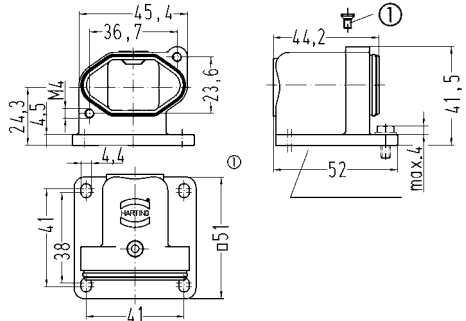

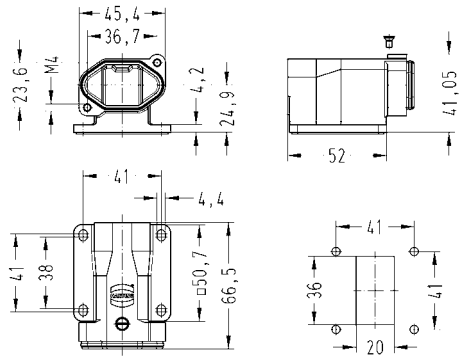

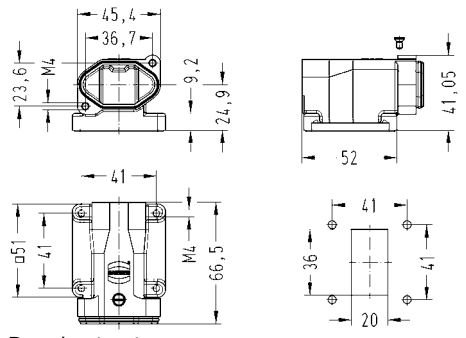
Han-Brid


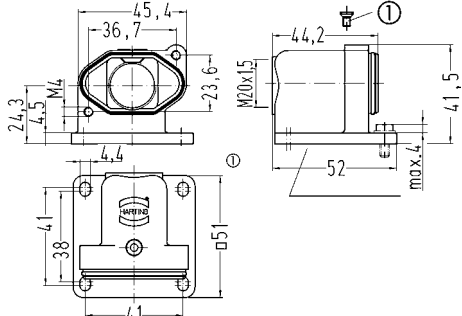

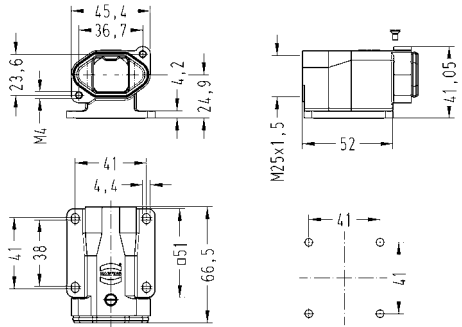

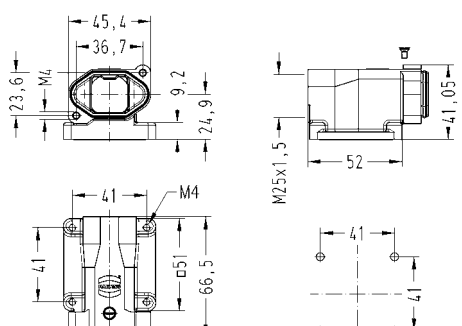
Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Surface mounted housings, angled, with sealing screw, top entry, screw locking, long version with closed bottom and feed through hole for fixing screws</p>	<p>1xM25</p>	<p>19 40 703 0951</p>	<p>Panel cut out</p>
<p>Han® HPR, Surface mounted housings, angled, with sealing screw, top entry, screw locking, long version with closed bottom and tapped blind hole for fixing screws</p>	<p>1xM25</p>	<p>19 40 703 0953</p>	<p>Panel cut out</p>
<p>Han® HPR, Cover for housings, toggle locking</p>		<p>09 40 703 5401</p>	
<p>Han® HPR, Cover for housings, toggle locking, with securing flex</p>		<p>09 40 703 5402</p>	
<p>Han® HPR, Cover for housings, screw locking</p>		<p>09 40 703 5411</p>	
<p>Han® HPR, Cover for housings, screw locking, with securing flex</p>		<p>09 40 703 5412</p>	
<p>Han® HPR, Dust protection cover, plastic</p> 		<p>09 40 003 5406</p>	

Hoods/Housings for harsh environmental requirements

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® HPR, Hoods, with sealing screw, top entry, toggle locking	1xM20	19 40 003 0400	
Han® HPR, Hoods, with sealing screw, top entry, screw locking	1xM20 1xM25	19 40 003 0410 19 40 003 0411	
Han® HPR, Bulkhead mounted housings, with sealing screw, toggle locking		09 40 003 0301	


Han-Brid

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Bulkhead mounted housings, with sealing screw, screw locking</p> 		09 40 003 0311	 <p>Panel cut out 21.3 x 21.3 mm ① sealing screw</p>
<p>Han® HPR, Bulkhead mounted housings, angled, with sealing screw, screw locking</p> 		09 40 003 0950	 <p>Panel cut out 21.3 x 21.3 mm ① sealing screw</p>
<p>Han® HPR, Bulkhead mounted housings, angled, screw locking, long version, feed through hole for fixing screws</p> 		09 40 003 0951	 <p>Panel cut out</p>
<p>Han® HPR, Bulkhead mounted housings, angled, with sealing screw, screw locking, long version, tapped blind hole for fixing screws</p> 		09 40 003 0953	 <p>Panel cut out</p>

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Surface mounted housings, angled, with sealing screw, top entry, screw locking, bottom closed</p> 	<p>1xM20</p>	<p>19 40 003 0950</p>	 <p>① sealing screw</p>
<p>Han® HPR, Surface mounted housings, angled, with sealing screw, top entry, screw locking, long version</p>  <p>with closed bottom and feed through hole for fixing screws</p>	<p>1xM25</p>	<p>19 40 003 0951</p>	 <p>Panel cut out</p>
<p>Han® HPR, Surface mounted housings, angled, with sealing screw, top entry, screw locking, long version</p>  <p>with closed bottom and tapped blind hole for fixing screws</p>	<p>1xM25</p>	<p>19 40 003 0953</p>	 <p>Panel cut out</p>
<p>Han® HPR, Cover for housings, toggle locking</p> <p>Han® HPR, Cover for housings, toggle locking, with securing flex</p> <p>Han® HPR, Cover for housings, screw locking</p> <p>Han® HPR, Cover for housings, screw locking, with securing flex</p>		<p>09 40 003 5401</p> <p>09 40 003 5402</p> <p>09 40 003 5411</p> <p>09 40 003 5412</p>	

Han-Brid

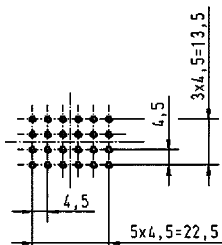


Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Dust protection cover, plastic</p> 		<p>09 40 003 5406</p>	

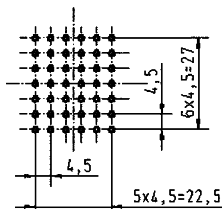
Contents	Page
Han-Fast® Lock.....	20.11
PCB adapter for Han DD®	20.13
PCB adapter for Han® DDD module	20.16
PCB adapter for Han® 40 A Axial module	20.18
PCB adapter for Han E®	20.20
PCB adapter for Han® Q 4/2.....	20.22
PCB adapter for Han® Q 5/0.....	20.25
PCB adapter for Han® Q 7/0.....	20.28
PCB adapter for Han® Q 8/0.....	20.31
PCB adapter for Han® Q 12/0.....	20.34

Layout of PCB

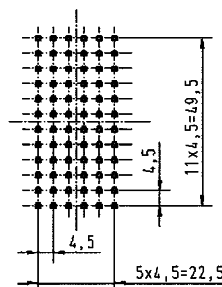
Han[®] 24 DD



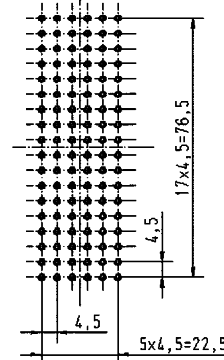
Han[®] 42 DD



Han[®] 72 DD

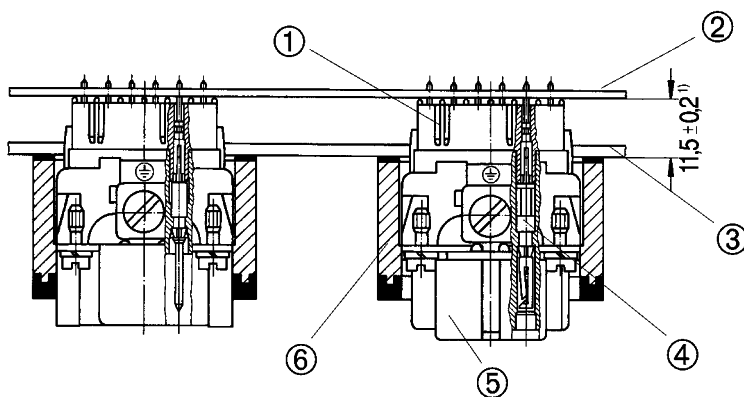


Han[®] 108 DD



Recommended hole diameter: 0.8 mm

Assembly situation

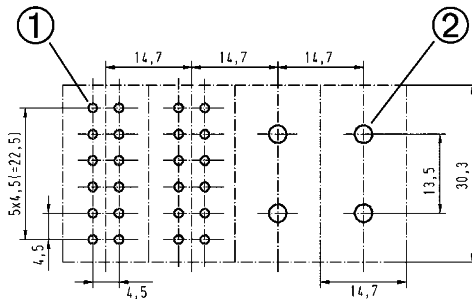


- ① PCB adapter
- ② Printed circuit board (PCB)
- ③ Switch board panel
- ④ Han DD[®] double contact
- ⑤ Han DD[®] insert
- ⑥ Han[®] B bulkhead mounted housing

1) for Han[®] B EMC housings spacing of 12.5 ± 0.2 mm is necessary as no flange seal is used

Layout of PCB

Dimensions in mm

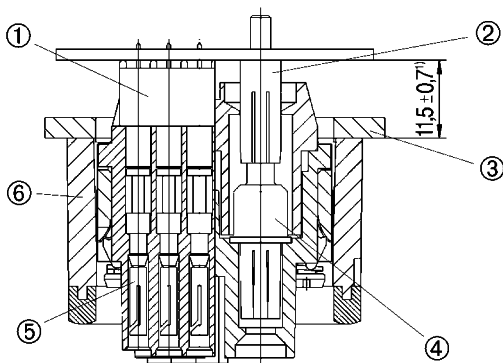


Han DD® module

Han® 40 A module

- ① Recommended hole diameter: 0.8 mm
- ② Recommended hole diameter: 3.2 mm

Assembly situation

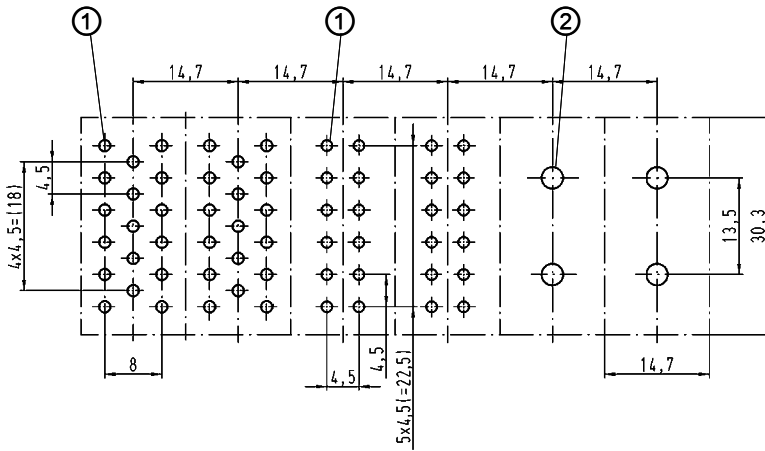


- ① Han DD® PCB-adapter
- ② Han® C solder contact
- ③ Switch board panel
- ④ Module for connection to printed circuit board
- ⑤ Han D® double contact
- ⑥ Han® B bulkhead mounted housing

1) for Han® B EMC housings spacing of 12.5 ± 0.7 mm is necessary as no flange seal is used

Layout of PCB

Dimensions in mm

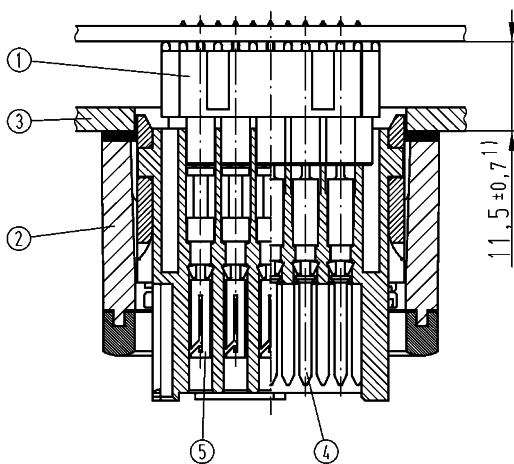


- ① Recommended hole diameter: 0.8 mm
- ② Recommended hole diameter: 3.2 mm

Han® DDD module Han® DD module Han® 70 A module

Assembly situation

Dimensions in mm



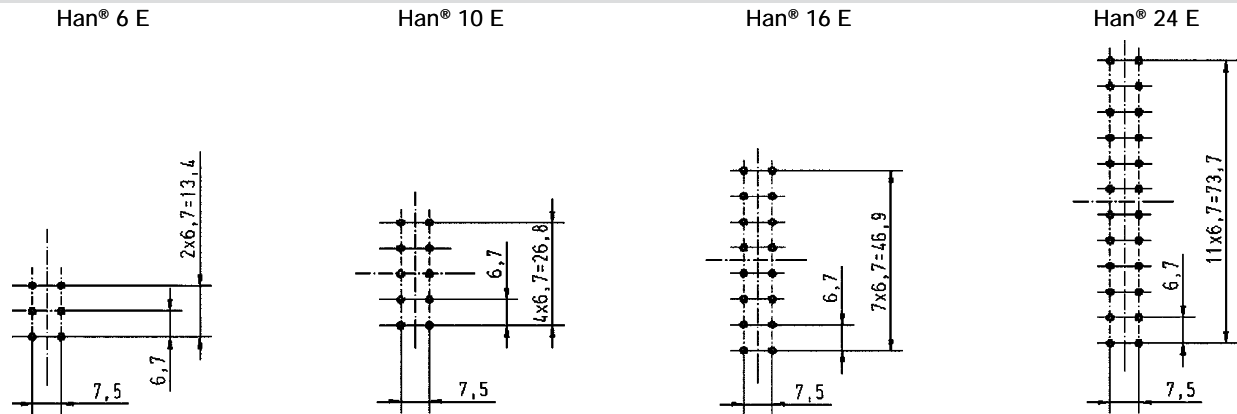
- ① Han DDD® PCB adapter 5 pins
- ② Han® B bulkhead mounted housing
- ③ Switch board panel
- ④ Han D® double male contact, 09 15 000 6197
- ⑤ Han D® double female contact, 09 15 000 6291

1) for Han® B EMV hood and housing spacing of 12.5 ± 0.7 mm is necessary as no flange seal is used.

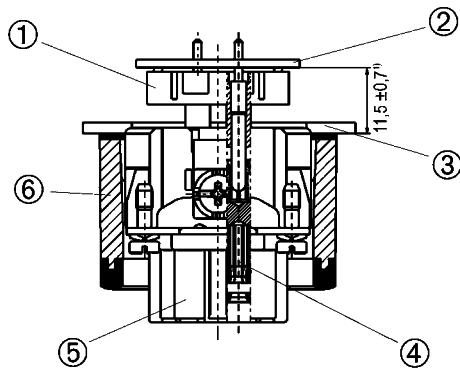
For further information and Han-Modular® frames please refer to chapter 06 (Han-Modular®)

PCB

Layout of PCB



Assembly situation

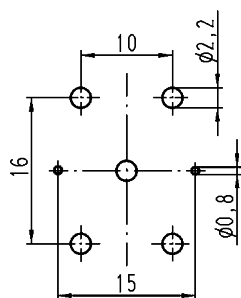


- ① PCB adapter
- ② Printed circuit board (PCB)
- ③ Switch board panel
- ④ Han E® double contact
- ⑤ Han E® insert
- ⑥ Han® B bulkhead mounted housing

1) for Han® B EMC housings spacing of 12.5 ± 0.7 mm is necessary as no flange seal is used

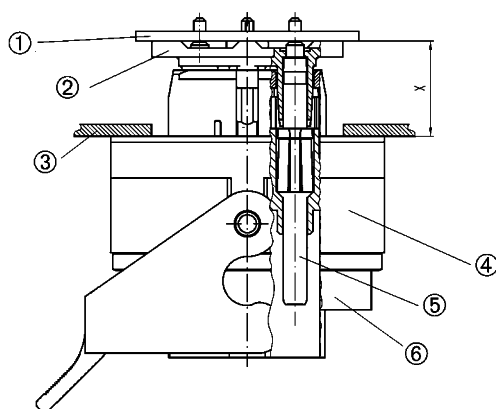
Layout of PCB

Dimensions in mm



Assembly situation

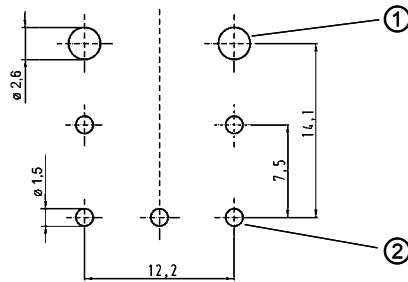
X = 16⁺¹ with signal contact or 16⁺² without signal contact



- ① Printed circuit board (PCB)
- ② PCB adapter
- ③ Switch board panel
- ④ Han-Compact® bulkhead mounted housing
- ⑤ Han® C double contact
- ⑥ Han® Q 4/2 insert

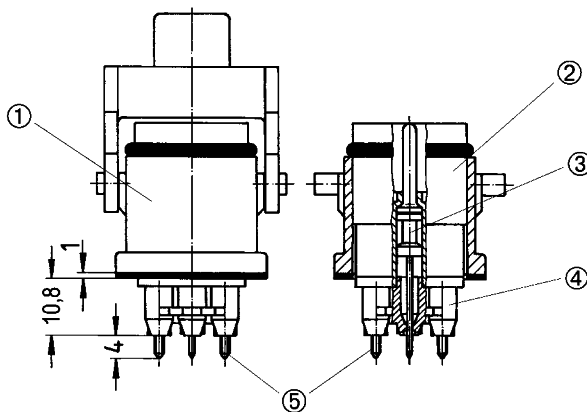
Layout of PCB

Dimensions in mm



- ① Recommended hole diameter: 2.6 mm
- ② Recommended hole diameter: 1.5 mm

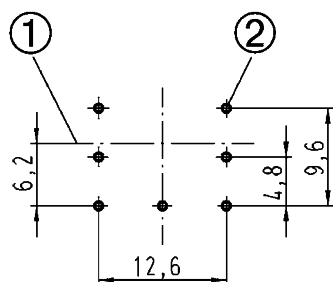
Assembly situation



- ① Han® 3 A bulkhead mounting housing
- ② Han® Q 5/0
- ③ Solder contacts
- ④ PCB adapter
- ⑤ Connection to printed circuit board

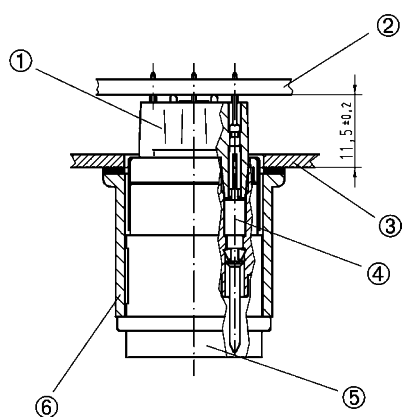
Layout of PCB

Dimensions in mm



- ① Median plane of the housing
- ② Recommended hole diameter: 0.8 mm

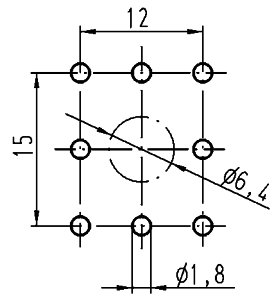
Assembly situation



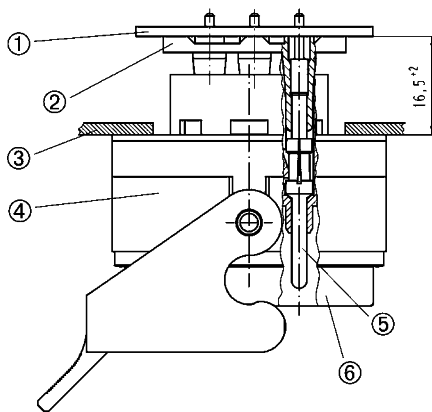
- ① PCB adapter
- ② Printed circuit board (PCB)
- ③ Switch board panel
- ④ Han D® double contact
- ⑤ Han® Q 7/0 Insert
- ⑥ Han® 3 A bulkhead mounting housing

Layout of PCB

Dimensions in mm

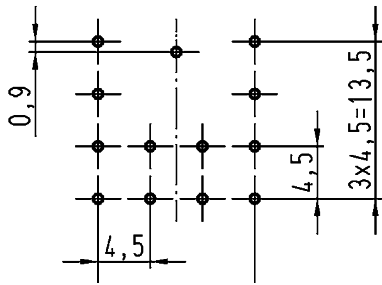


Assembly situation



- ① Printed circuit board (PCB)
- ② PCB adapter
- ③ Switch board panel
- ④ Han-Compact® bulkhead mounted housing
- ⑤ Han E® double contact
- ⑥ Han® Q 8/0 Insert

Layout of PCB



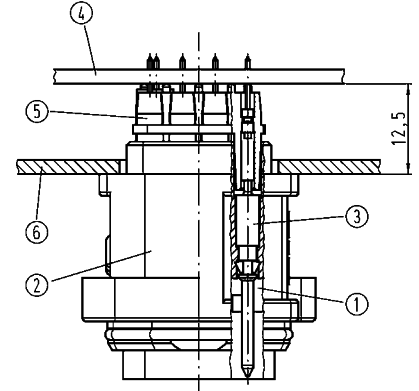
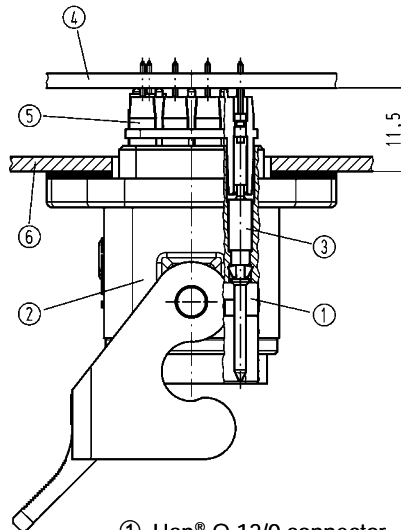
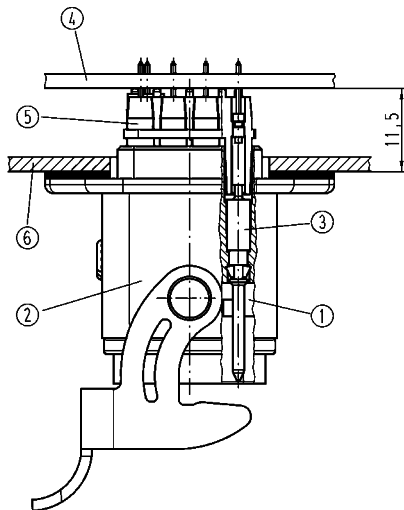
Dimensions in mm
Recommended hole diameter: 0.8 mm

Assembly situation

Han® 3 A Standard / EMC

Han® 3 A plastic

Han® 3 A HPR



- ① Han® Q 12/0 connector
- ② Han® 3 A housing bulkhead mounting
- ③ R15-double contact

- ④ Printed circuit board (PCB)
- ⑤ PCB adapter
- ⑥ Switch board panel

Features

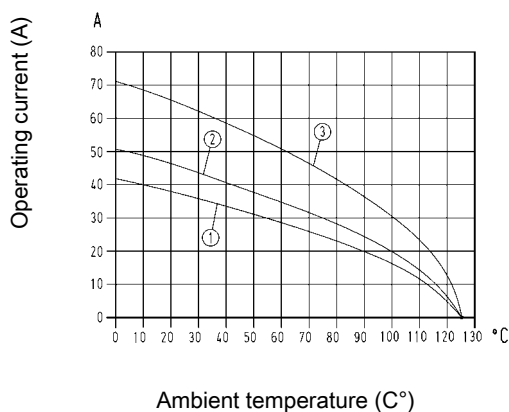
- Solder free PCB termination
- PCB contact with locking element
- Machine processing
- Flexible in terms of applications
- Practical and easy handling
- Fast assembly to PCB
- Contacts with pin: locking directly on the PCB
- Contacts without pin: fast positioning with plastic adapter

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 4 mm²
- ② Wire cross section 6 mm²
- ③ Wire cross section 10 mm²

Technical characteristics

Material (locking lever)	copper alloy, surface finish: passivation
Material (contact)	copper alloy

Details

Board thickness 1.6 ... 3.2 mm

Clearance and creepage distances have to be considered for the printed circuit board

Stripping length 7.5 mm

Finished hole d= 4.4 mm +0.05/-0.04

The new connection of wires to the PCB offers optimized PCB design, combined with outstanding contact qualities.

The Han-Fast® Lock is flexible and allows a fast and simple PCB connection. The PCB has one drilled hole and a pad.

The inner surface of the plated drilled hole serves as the interface. The Han-Fast® Lock is simply inserted into the plated through contact hole. The locking pin is pushed in and hence locks the contact into position.

The solder free connection technique is easy to handle and to operate. Maintenance has been made simple with the facility to detach the contact.

Han-Fast® Lock also supports SMD assembly of the PCB.

- Current up to 60 Amps
- Standard drilled hole with pad
- Position independent of connector
- Solder free PCB termination
- Easy locking solution
- Pull out force \geq 340 N

Features

- Robust design
- Suitable for standard and EMC housings
- Low wiring costs
- High density of contacts

Technical characteristics

Electrical data acc. to IEC 61984	7.5 A 250 V 4 kV 3
Rated current	7.5 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Material (insert)	polyamide
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984


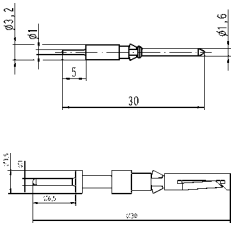

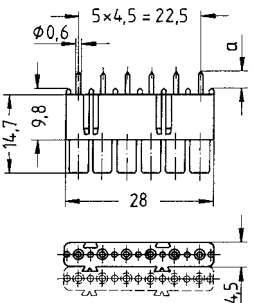

Details

Crimping tools see chapter 90


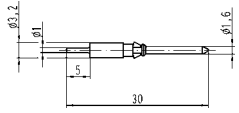
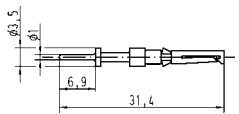

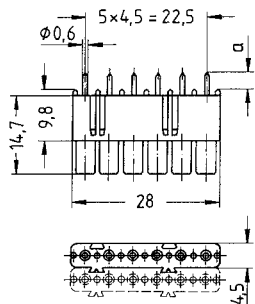

Modules see chapter 06

Han DD[®] crimp inserts see chapter 02

Han[®] B housings (bulkhead mounting) see chapter 31

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han D[®], to connect the PCB adapter, Double contact, silver plated contacts, contact resistance ≤ 3 mOhm</p> 	09 15 000 6191	09 15 000 6291	
<p>PCB adapter, for PCB's up to 1.6 mm, in the Han DD[®] crimp insert, in the Han DD[®] module, in the Han[®] DDD module (different electrical data: 7.5 A 160 V 2.5 kV 3)</p> 	09 16 000 9905	09 16 000 9905	 <p>09 16 000 9905 a = 2.6 09 16 000 9908 a = 3.4</p>
<p>PCB adapter, for PCB's up to 2.4 mm, in the Han DD[®] crimp insert, in the Han DD[®] module</p> 	09 16 000 9908	09 16 000 9908	

PCB

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han D®, to connect the PCB adapter, Double contact, silver plated contacts, contact resistance ≤3 mOhm</p> 	09 15 000 6191	09 15 000 6294	 
<p>PCB adapter, for PCB's up to 1.6 mm, in the Han DD® crimp insert, in the Han DD® module, in the Han® DDD module (different electrical data: 7.5 A 160 V 2.5 kV 3)</p> 	09 16 000 9905	09 16 000 9905	 <p>09 16 000 9905 a = 2.6 09 16 000 9908 a = 3.4</p>
<p>PCB adapter, for PCB's up to 2.4 mm, in the Han DD® crimp insert, in the Han DD® module</p> 	09 16 000 9908	09 16 000 9908	

Features

- Robust design
- Suitable for standard and EMC housings
- Low wiring costs
- High density of contacts

Technical characteristics

Electrical data acc. to IEC 61984	7.5 A	160 V	2.5 kV	3
Rated current	7.5 A			
Rated voltage		160 V, 250 V		
Rated impulse voltage		2.5 kV, 4 kV		
Pollution degree		3		
Material (insert)	polyamide			
Material (contact)	copper alloy			

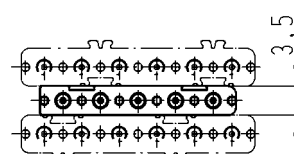
Specifications and approvals

IEC 60664-1
IEC 61984


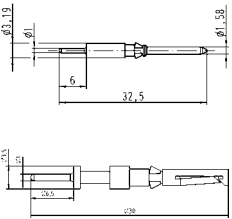
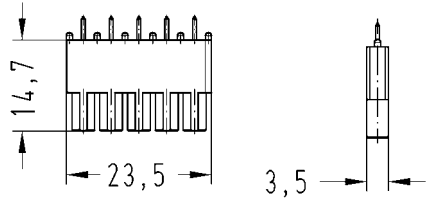

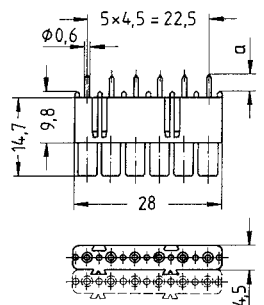
Details

Crimping tools see chapter 90

Modules see chapter 06



For a 17 pin PCB termination with the Han® DDD module two 6 pin and one 5 pin PCB adapters are necessary.
(electrical data: 7.5 A 160 V 2.5 kV 3)

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han D®, to connect the PCB adapter, Double contact, silver plated contacts, contact resistance ≤3 mOhm</p> 	09 15 000 6197	09 15 000 6291	
<p>PCB adapter, 5 pins, for PCB's up to 1.6 mm, in the Han® DDD module</p>	09 16 000 9915	09 16 000 9915	
<p>PCB adapter, for PCB's up to 1.6 mm, in the Han DD® crimp insert, in the Han DD® module, in the Han® DDD module (different electrical data: 7.5 A 160 V 2.5 kV 3)</p> 	09 16 000 9905	09 16 000 9905	 <p>09 16 000 9905 a= 2.6 09 16 000 9908 a= 3.4</p>

PCB

Features

- Modular assembly
- Robust design
- Suitable for standard and EMC housings
- Low wiring costs

Technical characteristics


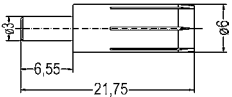

Electrical data acc. to IEC 61984	40 A 500 V 6 kV 3
Rated current	40 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Material (insert)	polycarbonate
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984

Details

Hinged frames see chapter 06

Identification	Part number		Drawing Dimensions in mm
	male	female	
Han® C, Solder contact, contact resistance ≤3 mOhm 	09 32 000 6295		
PCB adapter, in the Han® 40 A Axial module 	09 14 002 2603	09 14 002 2703	

Features

- Robust design
- Suitable for standard and EMC housings
- Low wiring costs
- Counter connector available with screw, crimp or cage clamp termination

Technical characteristics

Electrical data acc. to IEC 61984	16 A 500 V 6 kV 3
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Material (insert)	polycarbonate
Material (contact)	copper alloy

Specifications and approvals


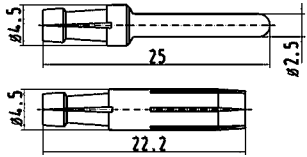

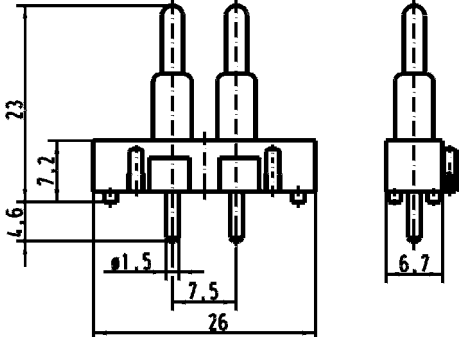
IEC 60664-1
IEC 61984

Details

Crimping tools see chapter 90

Han E® crimp inserts see chapter 03

Hoods/housings see chapter 31

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han E®, to connect the PCB adapter, Double contact, contact resistance ≤ 3 Ohm</p> 	09 33 000 6180	09 33 000 6280	
<p>PCB adapter, in the Han E® crimp insert</p> 	09 33 000 9996	09 33 000 9996	

Features

- Robust design
- Low wiring costs
- High density of contacts
- Suitable for Han-Compact® hoods and housings

Technical characteristics

Electrical data acc. to IEC 61984	30 A 400/690 V 6 kV 2
Rated current	30 A
Rated voltage conductor - ground	400 V
Rated voltage conductor - conductor	690 V
Rated impulse voltage	6 kV
Pollution degree	2
Electrical data, signal	7.5 A 250 V 4 kV 2
Rated current	7.5 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Flammability (locking lever) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP65 / IP67
Material (insert)	LCP
Material (hoods/housings)	polycarbonate
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	polyamide
Colour (locking lever)	RAL 9005 (black)
Material (seal)	NBR
Material (contact)	copper alloy

Specifications and approvals


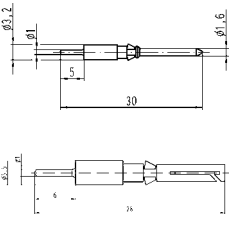

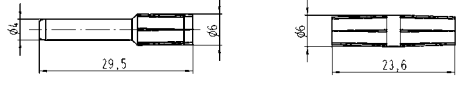

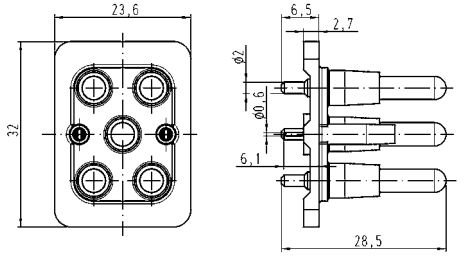
IEC 60664-1
IEC 61984




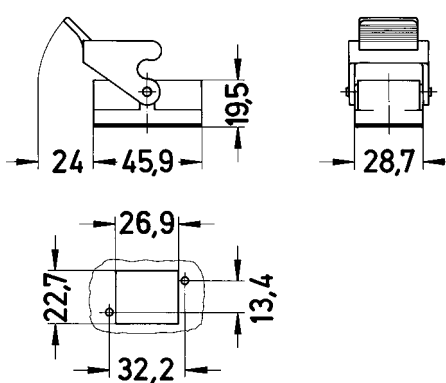
Details

Han® Q inserts see chapter 13

Crimping tools see chapter 90

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han D®, to connect the PCB adapter, Double contact, silver plated contacts, contact resistance ≤3 mOhm</p> 	09 15 000 6191	09 15 000 6293	
<p>Han® C, to connect the PCB adapter, Double contact, contact resistance ≤3 mOhm</p> 	09 32 000 6180	09 32 000 6280	
<p>PCB adapter, for PCB's up to 2.4 mm, in the Han® Q 4/2</p> 	09 12 006 9901	09 12 006 9901	

Plastic hoods/housings for industrial applications
double locking lever

Identification	Part number	Drawing Dimensions in mm
<p>Han-Compact®, Bulkhead mounted housings, straight version</p> 	<p>09 12 008 0327</p>	

PCB

Features

- Robust design
- Suitable only for EMC housings size Han® 3 A
- Additional robust and secure PE-connection between housing and PCB

Technical characteristics

Electrical data acc. to IEC 61984	10 A 230/400 V 4 kV 3
Rated current	10 A
Rated voltage conductor - ground	230 V
Rated voltage conductor - conductor	400 V
Rated impulse voltage	4 kV
Pollution degree	3
Limiting temperatures	-40 °C ... 125 °C
Flammability (locking lever) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP44 / IP67 is achieved with seal screw 09 20 000 9918
Material (insert)	polycarbonate
Material (hoods/housings)	zinc die-cast
Surface (hoods/housings)	unpainted
Material (locking lever)	steel, zinc-plated
Material (seal)	NBR
Material (contact)	copper alloy

Specifications and approvals


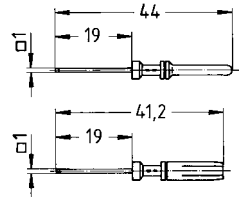

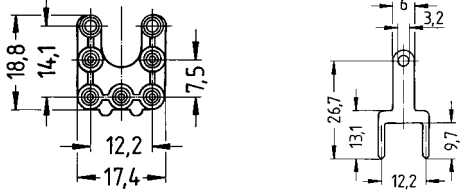
IEC 60664-1
IEC 61984



Details


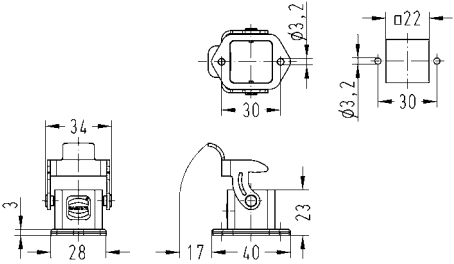
Han® Q inserts see chapter 13

Crimping tools see chapter 90

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han E®, to connect the PCB adapter, Solder contact, silver plated contacts, contact resistance ≤3 Ohm</p> 	09 33 000 6195	09 33 000 6295	
<p>Han® Q, PCB adapter, 5 pins, in the Han® Q 5/0</p> 	09 12 000 9905	09 12 000 9905	 <p>Adapter PE contact panel</p>

PCB

Hoods/Housings for higher EMC requirements
double locking lever

Identification	Part number	Drawing Dimensions in mm
<p>Han® EMV, Bulkhead mounted housings</p> 	<p>09 62 003 0304</p>	

Features

- Robust design
- Suitable for standard and EMC housings
- High density of contacts

Technical characteristics

Electrical data acc. to IEC 61984	7.5 A 250 V 4 kV 3
Rated current	7.5 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Limiting temperatures	-40 °C ... 125 °C
Degree of protection acc. to IEC 60529	IP44 / IP67 is achieved with seal screw 09 20 000 9918
Material (insert)	polycarbonate
Material (hoods/housings)	zinc die-cast
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 7037 (grey)
Material (locking lever)	steel, zinc-plated
Material (seal)	NBR
Material (contact)	copper alloy

Specifications and approvals


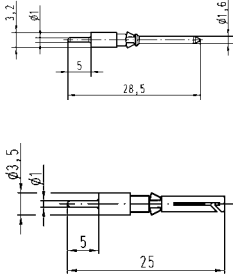

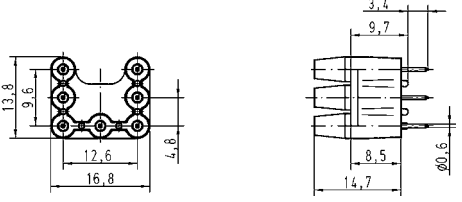
IEC 60664-1
IEC 61984



Details

Han® Q inserts see chapter 13

Crimping tools see chapter 90

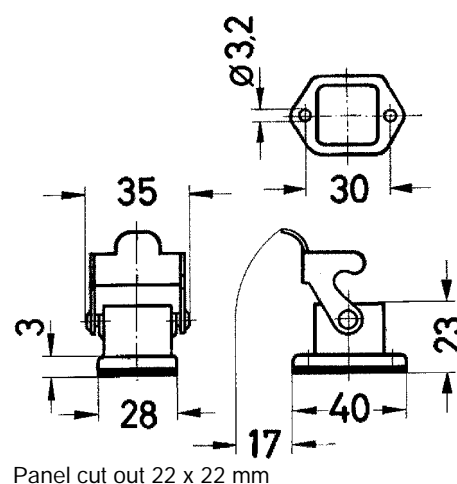
Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han D®, to connect the PCB adapter, Double contact, silver plated contacts, contact resistance ≤3 mOhm</p> 	09 15 000 6190	09 15 000 6290	
<p>PCB adapter, for PCB's up to 2.4 mm, in the Han® Q 7/0</p> 	09 12 000 9908	09 12 000 9908	

Metal hoods/housings for industrial applications
double locking lever

Identification	Part number	Drawing Dimensions in mm
----------------	-------------	-----------------------------

Han A®,
Bulkhead mounted housings,
straight

09 20 003 0301



PCB

Features

- Robust design
- Suitable for Han-Compact® hoods and housings
- Low wiring costs
- High density of contacts

Technical characteristics

Electrical data acc. to IEC 61984	16 A 230/400 V 4 kV 2
Rated current	16 A
Rated voltage conductor - ground	230 V
Rated voltage conductor - conductor	400 V
Rated impulse voltage	4 kV
Pollution degree	2
Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Flammability (locking lever) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP65 / IP67
Material (insert)	LCP
Material (hoods/housings)	polycarbonate
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	polyamide
Colour (locking lever)	RAL 9005 (black)
Material (seal)	NBR
Material (contact)	copper alloy

Specifications and approvals


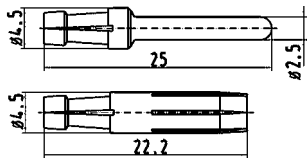

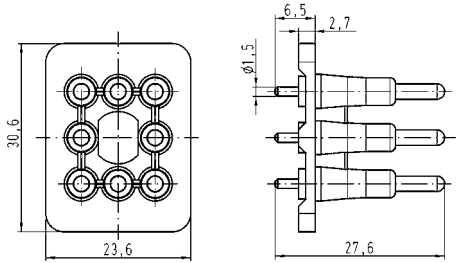
IEC 60664-1
IEC 61984



Details

Han® Q inserts see chapter 13

Crimping tools see chapter 90

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han E®, to connect the PCB adapter, Double contact, contact resistance ≤3 Ohm</p> 	09 33 000 6180	09 33 000 6280	
<p>Han® Q, PCB adapter, for PCB's up to 1.6 mm, in the Han® Q 8/0</p> 	09 12 008 9901	09 12 008 9901	

PCB

Plastic hoods/housings for industrial applications
double locking lever

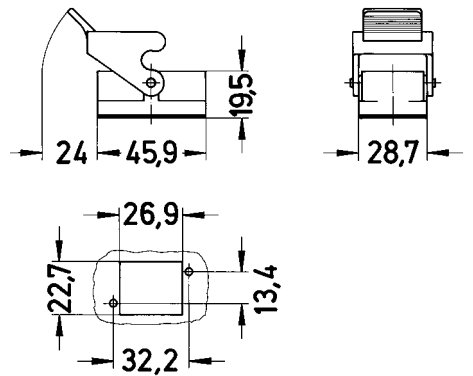
Identification

Han-Compact®,
Bulkhead mounted housings,
straight version

Part number

09 12 008 0327

Drawing
Dimensions in mm



Features

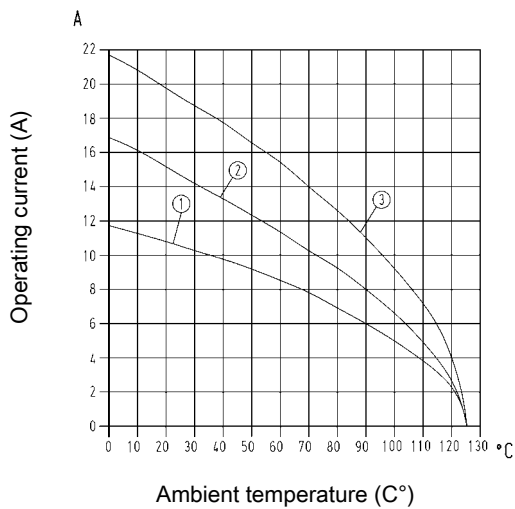
- Robust design
- Suitable for standard and EMC housings
- High density of contacts

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 0.75 mm²
- ② Wire cross section 1.5 mm²
- ③ Wire cross section 2.5 mm²

Technical characteristics

Contacts	12/0
Electrical data acc. to IEC 61984	7.5 A 250 V 4 kV 3
Rated current	7.5 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Flammability (seal) acc. to UL 94	V 0
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984




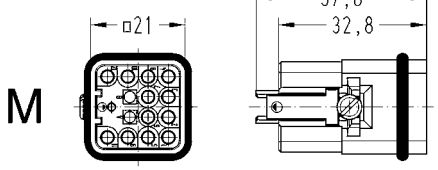
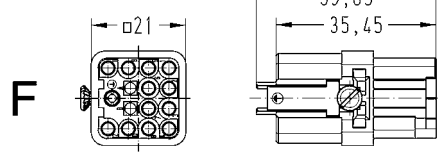

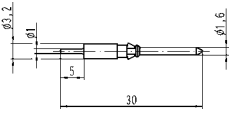
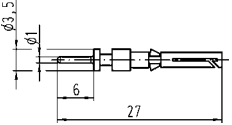
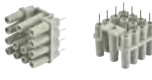
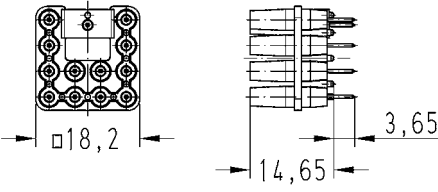
Details

Crimping tools see chapter 90

Number of contacts

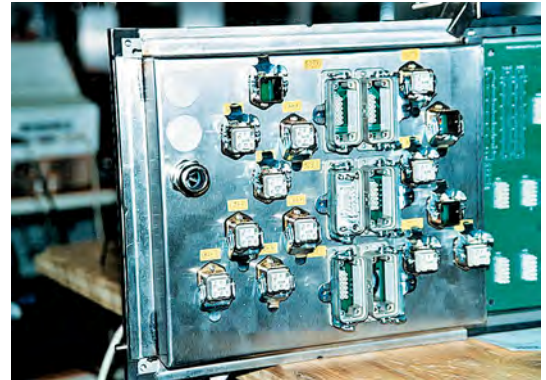
12/0+

250 V
7.5 A

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>Han® Q, Solder terminal, for PCB adapter</p>  <p>Please order contacts separately.</p>	09 12 012 3002	09 12 012 3102	<p>M</p>  <p>F</p> 
<p>Han D®, to connect the PCB adapter, Double contact, silver plated contacts, contact resistance ≤3 mOhm</p> 	09 15 000 6191	09 15 000 6297	 
<p>PCB adapter, for PCB's up to 2.4 mm</p> 	09 12 012 9901	09 12 012 9901	

PCB

- Secondary mating between industrial connector and printed circuit board.
- No higher force is applied on the soldering joint when mating the industrial connector due to an additional mating point.
- No wiring between printed circuit board and industrial connector necessary.
- This means no wiring faults → no testing, no costs
- Connecting times are minimized.
- Easy handling is time and cost saving.
- The production of mechanical and electrical / electronical components can be completely separated.
- Possibility to reach a higher degree of automation in the production (e.g. wave soldering of the PCBs).

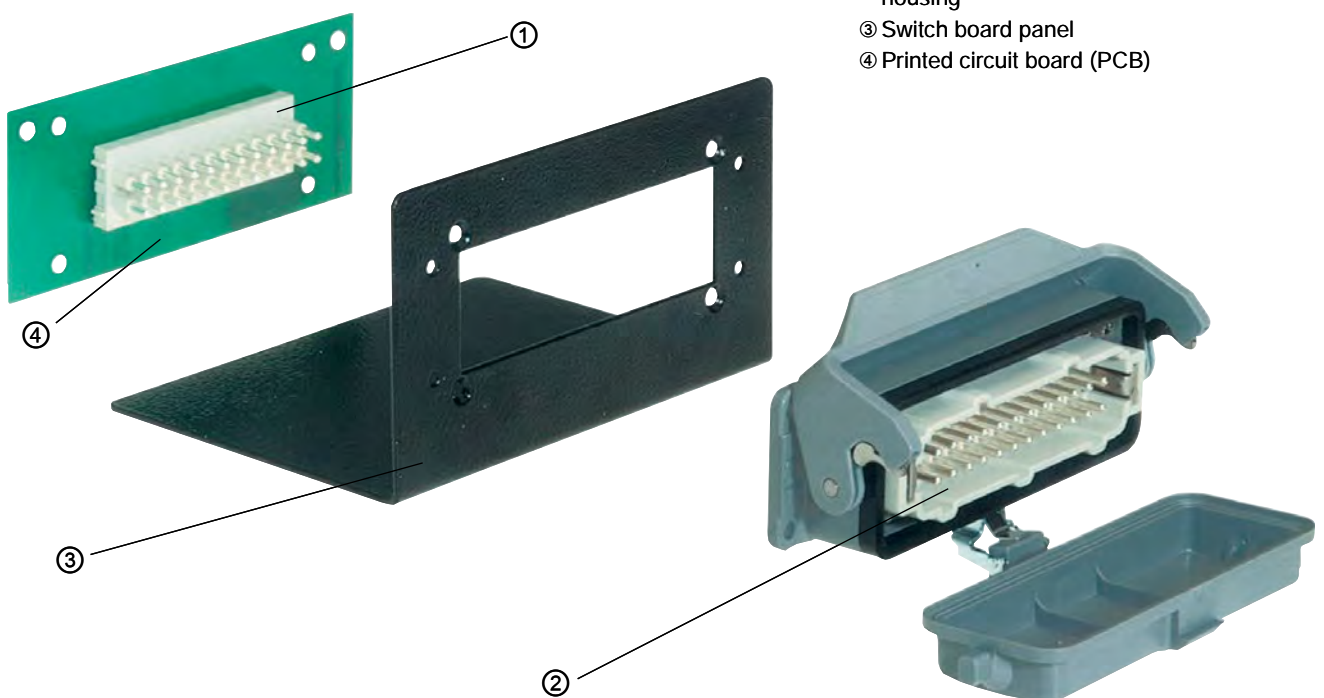


Han DD® and Han® Q 5/0 PCB adapter
Wilhelm Fette GmbH, Germany



Han E® PCB adapter

- ① PCB adapter for Han E®
- ② Han E® connector in a bulkhead mounted housing
- ③ Switch board panel
- ④ Printed circuit board (PCB)



PCB

Contents	Page
Inserts for: Han-Yellock® 10.....	25.7
Inserts for: Adapter frames.....	25.9
Quick Lock module.....	25.11
Crimp module.....	25.13
Multiplier.....	25.15
Adapter frames.....	25.19
Monoblocks.....	25.22
Han-Yellock® 10 hoods/housings.....	25.25
Han-Yellock® 30 hoods/housings.....	25.28
Han-Yellock® 60 hoods/housings.....	25.35
Accessories.....	25.42

Description of the Han-Yellock® system

The Han-Yellock® - a special Han® connector

Han-Yellock® is a new product series which retains the core functionality but differs significantly from current size and shape formats. The approach of this series makes many new functions possible, for example:

- An internal, latched locking mechanism on the hood
- Multiplies the potentials in the connector with Han-Yellock® modules
- Usage of Han-Modular® modules with adapter frames
- Insulators can snap into the front or back walls of the housing
- Protected Earth contact (PE) in crimp or Quick Lock termination

These new technical features encourage sustained and effective improvements:

when purchasing products –

- Less article numbers and less inventory,

when planning for the electrical and mechanical layout –

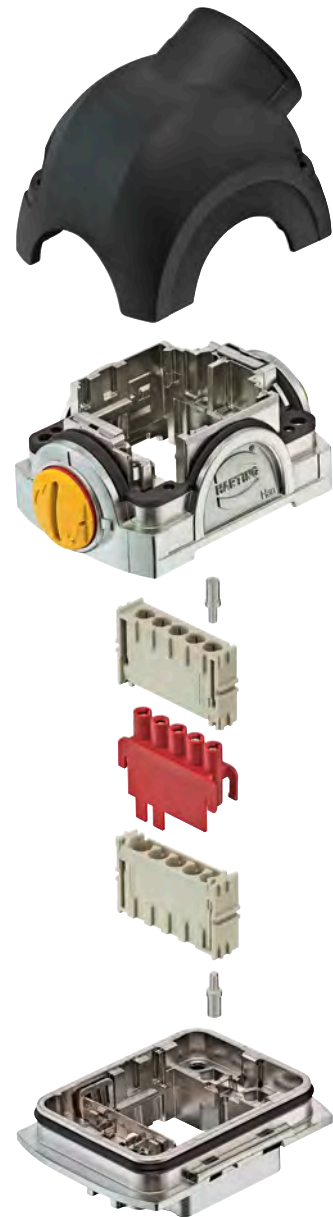
- Less wiring work within a machine,

during the work flow –

- Less steps in the work flow and quicker assembly,

and during the after-sales stage –

- Reduced down times because of the latched locking mechanism and maintenance-friendly design



Assembly details

Design overview

The Han-Yellock® interface consists of a housing, bulkhead mounting, on the housing side and a carrier hood with cover on the cable side.

Han-Yellock® offers the following features when assembling components:

- Han-Yellock® modules require only male crimp contacts.
- The PE is contacted on the housing; it can be connected with crimp and/or Quick Lock contacts.
- The Han-Yellock® hoods/housing are not plug-compatible with all other Han® hood/housing series.

The Han-Yellock® system can be used with a variety of insulators and contact inserts in order to establish an interface.

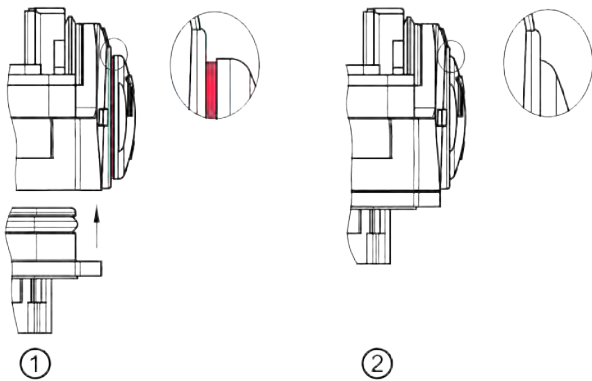
The Locking

The locking ability is a key function of the Han-Yellock®. The function makes connections and disconnections safe, simple and quick – even under harsh industrial conditions.

Main advantages include:

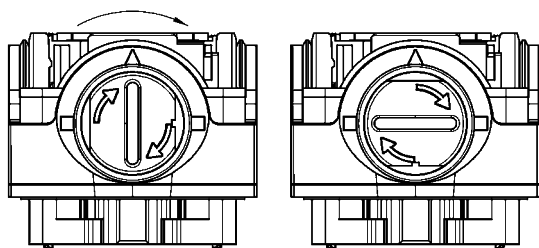
- Easy handling
- Resistance to vibrations and shock
- Protected against accidental opening
- Compact, space-saving design

Han-Yellock® features a patented internal locking mechanism. The locking takes place as the cable and device sides are simply joined together. A red ring around the perimeter of the push button will be visible if the housing halves do not snap together properly. This ring disappears as soon as the internally protected stainless steel springs snap into place.



- ① unlocked
- ② locked

This press-button locking also features an integrated blocking function. The locking mechanism can be locked by rotating the button 90°. It is then no longer possible to open the connector.



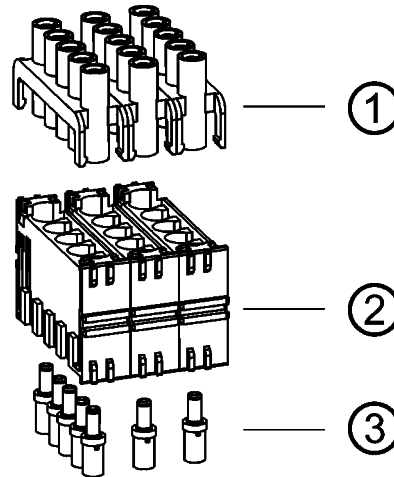
- „open“
- „blocked“

The press button can be set back to its visually open position only after the button is turned back 90°. It is then possible to release the two housing halves by pressing the snap-in button.

This feature provides an elegant mechanism for preventing an accidental opening of the connector – and no additional components are needed for it.

Han-Yellock® modules

This new product series enables an improved approach and strategy for electrical planning and procurement. For assembling the Han-Yellock® connector only male crimp contacts are needed. The conduct between the two male contacts is made by multipliers.



- ① multiplier
- ② Han-Yellock® module
- ③ Han-Yellock® crimp contacts

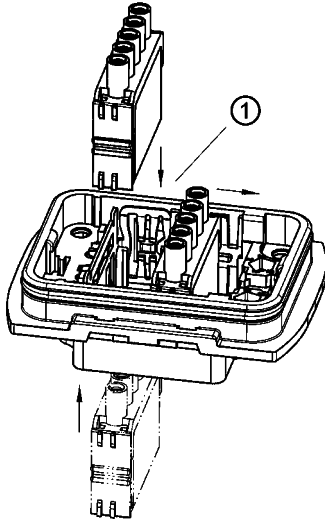
This concept allows a 1:1 wire to wire arrangement and in addition the use of bridges. Two to five contacts can be arranged.

It does not matter if the bridge attachment is inserted on the cable side or the housing side of the connector.

In the past, terminals blocks have been responsible for the function of multiplying potentials. But now this function has been integrated into the connector for a quick, compact and easy-to-service solution.

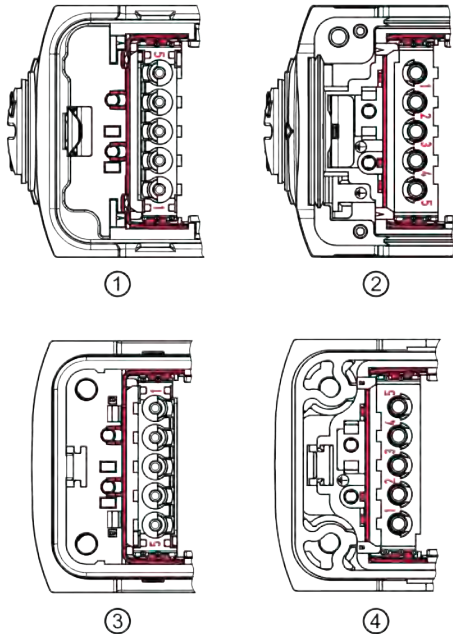
Inserting the module into the hoods/housing

- The Han-Yellock® module should only be inserted into the „A“ plug-in position in the metal clamp.

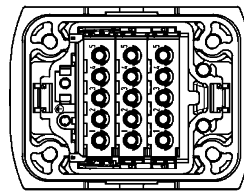


① plug-in position „A“

- The illustration shows the orientation of the module (see arrangement of contacts 1 ... 5).

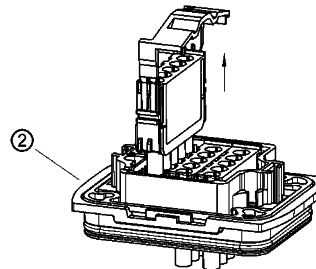
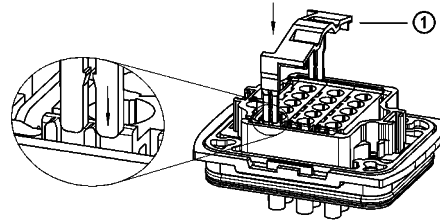


- ① Carrier hood, mating side
- ② Carrier hood, connection side
- ③ Housing, bulkhead mounting, mating side
- ④ Housing, bulkhead mounting, connection side
- A distinct click can be heard when the module snaps into position. It is then pushed along the rail to its final position. The plug-in slots must always be completely filled.



Disassembling the Han-Yellock® module

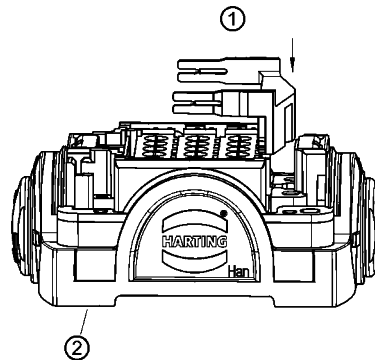
- The removal tool (part no. 11 99 000 0001) is required to take out the module.
- The following illustration shows how to insert the removal tool into the metal clamp. The tool should then be pressed down until it reaches the end stop.
- The tool is then pulled back and the module comes out of the housing.
- The removal can be made from the connection side as well as from the mating side.



- ① removal tool
- ② housing, bulkhead mounting

The process is identical for both housings, bulkhead mounting, and carrier hoods.

The removal tool can be stored on the carrier hood:



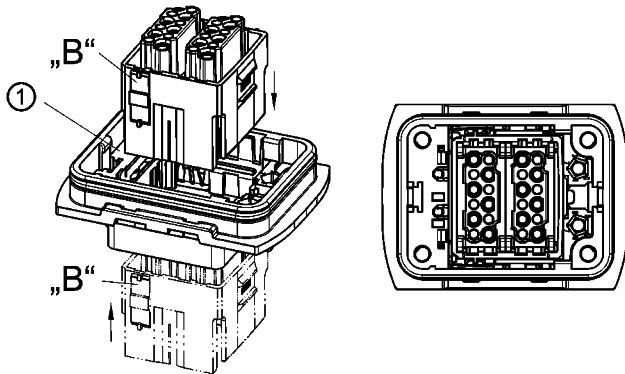
- ① removal tool
- ② carrier hood

Han-Yellock® adapter frame

Han-Modular® series interfaces can be established using the Han-Yellock® adapter frame. The connection is based on a male/female contact arrangement.

Inserting the adapter frame in the housing:

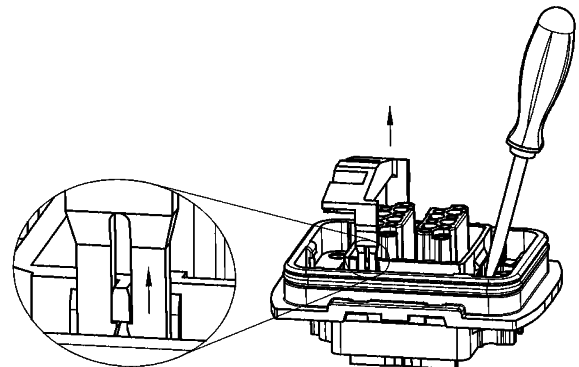
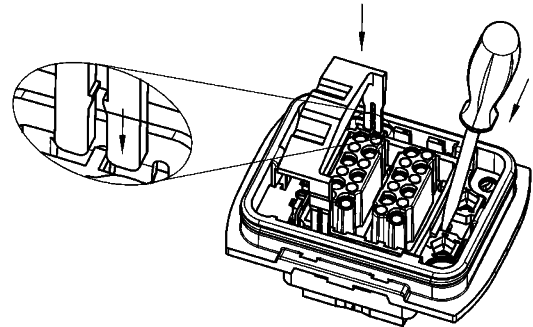
- The adapter frame can be snapped into the housing, bulkhead mounting, on the termination side and the mating side (refer to the illustration).
- The lateral plastic tabs („B“) are pressed into the metal clamps on the housing.
- The adapter frame then snaps in with a distinctly audible click.



① metal clamp

Removal the adapter frame:

- The removal tool part no. 11 99 000 0001 is required for disassembly.
- The removal tool is inserted into the metal clamp and pressed down as shown in the following illustration. A screwdriver need also be placed into the notch in the housing.
- The removal tool should then be pulled outwards to remove the adapter frame from the housing.
- The removal can be made from the termination side as well as from the mating side.
- The process is identical for both housings, bulkhead mounting, and carrier hoods.



Han-Yellock® Protection covers

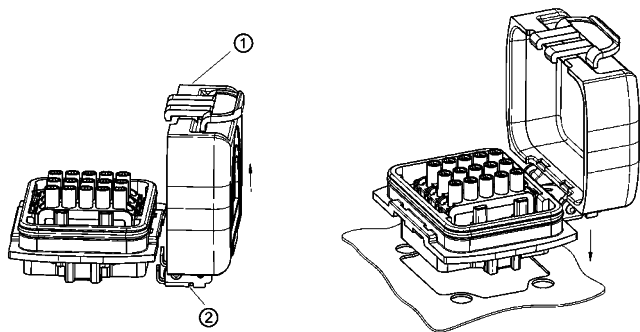
Protection cover function

To protect the insert against dust and water it is possible to use a Han-Yellock® protection cover.

The protection cover comes with a metal bearing pedestal and can be installed during initial or retrofit installation.

The Han-Yellock® design offer the possibility to snap in the pedestal either on the left or on the right side of the housing.

The direction of the cover movement can flip without turning the housing and inserts.



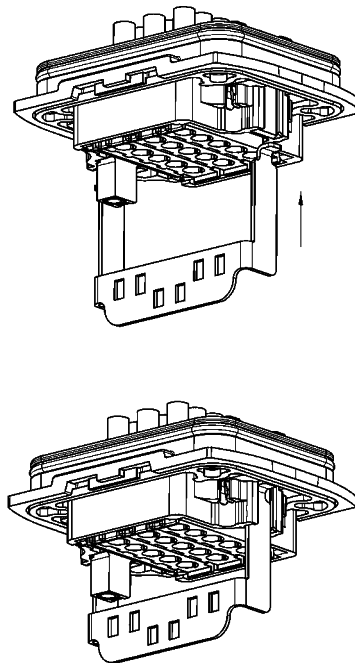
- ① cover
- ② bearing pedestal





Han-Yellock® Ground terminal





Ground terminal assembly





On the housing side ground terminals can be used.

After placing the frame deeply inside the housing slots the housing will be fixed to the panel leading to solid mounting of the complete set.



Series	Han® 3 A	Han® 3 A Quick Lock	Han® 3 A Quick Lock	Han® 4 A
Number of contacts	3 + ⊕	3 + ⊕	3 + ⊕	4 + ⊕
Termination	Screw terminal 	Quick Lock termination 	Quick Lock termination 	Screw terminal 
Rated current	10 A	10 A	10 A	10 A
Rated voltage	230 / 400 V	230 / 400 V	230 / 400 V	230 / 400 V
Wire gauge	1 ... 2.5 mm ²	0.5 ... 2.5 mm ²	0.25 ... 1.5 mm ²	1 ... 2.5 mm ²
Male insert (M)	09 20 003 2611	09 20 003 2633	09 20 003 2634	09 20 004 2611
Female insert (F)	09 20 003 2711	09 20 003 2733	09 20 003 2734	09 20 004 2711



Series	Han® 4 A Quick Lock	Han® 4 A Quick Lock	Han® 8 D	Han® 8 D Quick Lock
Number of contacts	4 + ⊕	4 + ⊕	8	8
Termination	Quick Lock termination 	Quick Lock termination 	Crimp terminal 	Quick Lock termination 
Rated current	10 A	10 A	10 A	10 A
Rated voltage	230 / 400 V	230 / 400 V	~ 50 V / - 120 V	~ 50 V / - 120 V
Wire gauge	0.5 ... 2.5 mm ²	0.25 ... 1.5 mm ²	0.14 ... 2.5 mm ²	0.25 ... 1.5 mm ²
Male insert (M)	09 20 004 2633	09 20 004 2634	09 36 008 3001	09 36 008 2632
Female insert (F)	09 20 004 2733	09 20 004 2734	09 36 008 3101	09 36 008 2732

Series	Han® Q 2/0	Han® Q 2/0	Han® Q 2/0	Han® Q 2/0
Number of contacts	2 + ⊕	2 + ⊕	2 + ⊕	2 + ⊕
Termination	Axial screw terminal 	Axial screw terminal 	Crimp terminal 	Axial screw terminal 
Rated current	40 A	40 A	40 A	40 A
Rated voltage	400 V	400 V	400 V	830 V
Wire gauge	2.5 ... 6 mm ²	4 ... 10 mm ²	1.5 ... 10 mm ²	2.5 ... 6 mm ²
Male insert (M)	09 12 002 2653	09 12 002 2651	09 12 002 3051	09 12 002 2654
Female insert (F)	09 12 002 2753	09 12 002 2751	09 12 002 3151	09 12 002 2754

Han-Yellock

Inserts for: Han-Yellock® 10











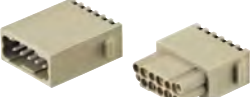





Series	Han® Q 2/0	Han® Q 2/0	Han® Q 3/0	Han® Q 5/0
Number of contacts	2 + ⊕	2 + ⊕	3 + ⊕	5 + ⊕
Termination	Axial screw terminal 	Crimp terminal 	Crimp terminal	Crimp terminal 
Rated current	40 A	40 A	40 A	16 A
Rated voltage	830 V	830 V	400 V	230 / 400 V
Wire gauge	4 ... 10 mm ²	1.5 ... 10 mm ²	1.5 ... 10 mm ²	0.14 ... 2.5 mm ²
Male insert (M)	09 12 002 2652	09 12 002 3052	09 12 003 3051	09 12 005 3001
Female insert (F)	09 12 002 2752	09 12 002 3152	09 12 003 3151	09 12 005 3101
Series	Han® Q 5/0 Quick Lock	Han® Q 7/0	Han® Q 12/0	
Number of contacts	5 + ⊕	7 + ⊕	12 + ⊕	
Termination	Quick Lock termination 	Crimp terminal 	Crimp termination/ Quick Lock termination 	
Rated current	16 A	10 A	10 A	
Rated voltage	230 / 400 V	400 V	400 V	
Wire gauge	0.5 ... 2.5 mm ²	0.14 ... 2.5 mm ²	0.14 ... 2.5 mm ²	
Male insert (M)	09 12 005 2633	09 12 007 3001	09 12 012 3001	
Female insert (F)	09 12 005 2733	09 12 007 3101	09 12 012 3101	
Series	Han-Brid® RJ45 C	Han-Brid® RJ45 C	Han-Brid® RJ45 C	Han-Brid® RJ45 C
Number of contacts	2 / 8	2 / 8	2 / 8	2 / 8
Termination	Crimp terminal / RJ45 	Crimp terminal / RJ45 	Crimp terminal / RJ45 	Crimp terminal / RJ45 
Rated current	10 A	10 A	10 A	10 A
Rated voltage	24 V	24 V	24 V	24 V
Wire gauge	0.14 ... 2.5 mm ²	0.14 ... 2.5 mm ²	0.14 ... 2.5 mm ²	0.14 ... 2.5 mm ²
Male insert (M)	09 12 003 3021	09 12 003 3031		
Female insert (F)			09 12 003 2774	09 12 003 2776

Han-Yellock

Inserts for: Adapter frames












Series	Han® CC Protected module	Han® CD module	Han E® module	Han® E Quick Lock module
Number of contacts	4	3	6	6
Modules	Crimp terminal 	Crimp terminal 	Crimp terminal 	Quick Lock termination 
Rated current	40 A	40 A	16 A	16 A
Rated voltage	830 V	830 V	500 V	500 V
Wire gauge	1.5 ... 6 mm ²	1.5 ... 6 mm ²	0.14 ... 4 mm ²	0.5 ... 2.5 mm ²
Series	Han® EE module	Han® EE Quick Lock module	Han E® Protected module	Han® EEE module
Number of contacts	8	8	6	20
Modules	Crimp terminal 	Quick Lock termination 	Crimp terminal 	Crimp terminal 
Rated current	16 A	16 A	16 A	16 A
Rated voltage	400 V	400 V	830 V	500 V
Wire gauge	0.14 ... 4 mm ²	0.5 ... 2.5 mm ²	0.14 ... 4 mm ²	0.14 ... 4 mm ²
Series	Han® ES module	Han DD® module	Han DD® Quick Lock module	Han® DDD module
Number of contacts	5	12	12	17
Modules	Cage-clamp terminal 	Crimp terminal 	Quick Lock termination 	Crimp terminal 
Rated current	16 A	10 A	10 A	10 A
Rated voltage	400 V	250 V	250 V	160 V
Wire gauge	0.14 ... 2.5 mm ²	0.14 ... 2.5 mm ²	0.25 ... 1.5 mm ²	0.14 ... 2.5 mm ²
Series	Han® High Density module	Han® D-Sub module		
Number of contacts	25	9		
Modules	Crimp terminal 	Crimp terminal 		
Rated current	4 A	5 A		
Rated voltage	50 V	50 V		
Wire gauge	0.08 ... 0.52 mm ²	0.08 ... 0.52 mm ²		

Han-
Yellow

Inserts for: Adapter frames



Series	Han® USB module	Han® GigaBit module		
Number of contacts	4	8		
Modules	USB 2.0	Ethernet Cat. 6		
				

Series	Han-Quintax® module				Han® Multi module
Number of contacts	2				
Modules					
Contacts	<p>Han-Quintax® contact 4 + shielding</p> 	<p>High Density Quintax contact 8 + shielding</p> 	<p>Han D® Coax contact 75 Ω 1 + shielding</p>  <p>75 Ω</p>	<p>Han E® Coax contact 50 Ω 1 + shielding</p>  <p>50 Ω</p>	<p>Coaxial contact</p>  <p>50 Ω RG 174 75 Ω RG 179 50 Ω RG 58</p>

Han-
Yellow

Features

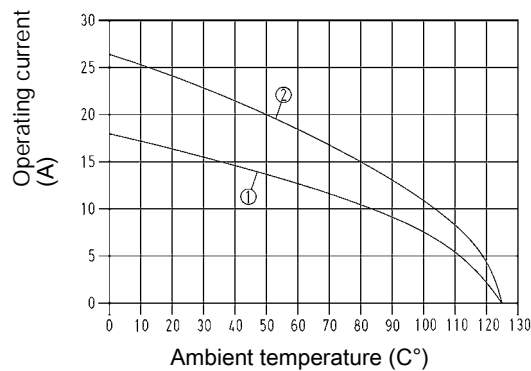
- Snap-in assembly from mating side and from termination side
- Bus bar within bridge attachments
- Finger safe design
- Fast and tool-less assembly
- Mating compatible to the crimp version

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 1.5 mm²
- ② Wire cross section 2.5 mm²
for connector with 3 Han-Yellock® modules, fully loaded (multiplier 1:1)

Technical characteristics

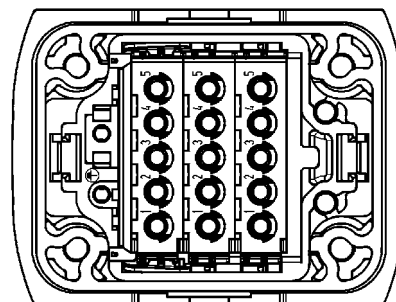
Contacts	5
Electrical data acc. to IEC 61984	blue slide 20 A 500 V 6 kV 3 black slide 10 A 500 V 6 kV 3
Rated current	20 A, 10 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

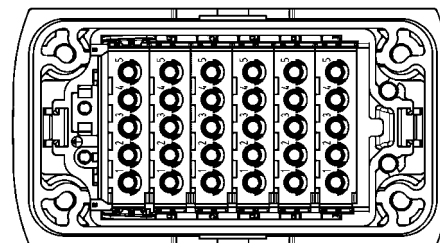
IEC 60664-1
IEC 61984



Details



Placement for Han-Yellock® 30 with 3 Han-Yellock® modules



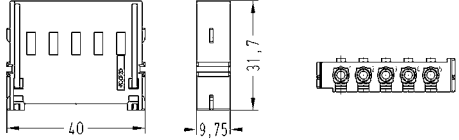




Placement for Han-Yellock® 60 with 6 Han-Yellock® modules

Number of contacts

5

500 V
20 A

Identification	Wire cross section (mm ²)	Part number	Drawing Dimensions in mm
<p> Han-Quick Lock¹ Han-Yellock[®], Han-Quick Lock[®] termination, blue slide, silver plated contacts, contact resistance ≤ 2 mOhm</p> 	0.5 – 2.5	11 05 105 2633	 <p>Stripping length 10 mm</p>
<p> Han-Quick Lock¹ Han-Yellock[®], Han-Quick Lock[®] termination, black slide, silver plated contacts, contact resistance ≤ 2 mOhm</p> 	0.25 – 1.5	11 05 105 2634	

Han-Yellock

Features

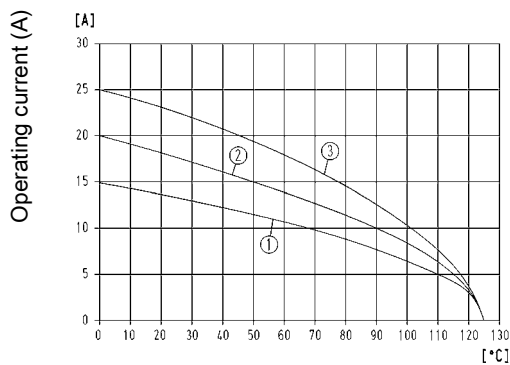
- Snap-in assembly from mating side and from termination side
- Wiring with male contacts only
- Bus bar within bridge attachments
- Finger safe design
- Fast and tool-less assembly

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



Ambient temperature (C°)

- ① Wire cross section 1.5 mm²
 - ② Wire cross section 2.5 mm²
 - ③ Wire cross section 4 mm²
- for connector with 3 Han-Yellock® modules, fully loaded (multiplier 1:1)

Technical characteristics

Contacts	5
Electrical data acc. to IEC 61984	20 A 500 V 6 kV 3
Rated current	20 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Insulation resistance	<10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	<500
Material (insert)	PC, polycarbonate
Colour (insert)	RAL 7032 (light grey), RAL 5015 (blue), RAL 3000 (red)
Material (contact)	copper alloy

Specifications and approvals

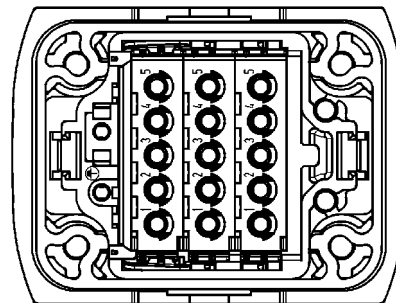
IEC 60664-1
IEC 61984



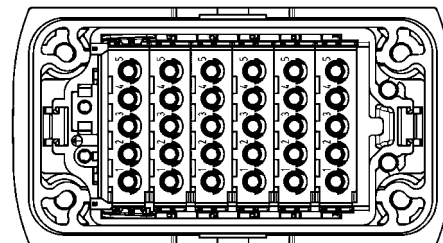
Details

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.



Placement for Han-Yellock® 30 with 3 Han-Yellock® modules


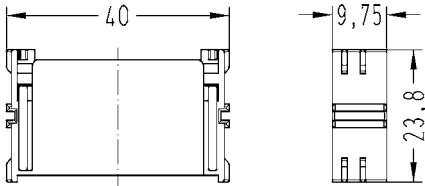
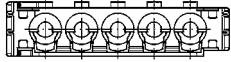

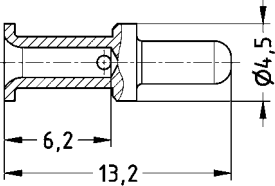



Placement for Han-Yellock® 60 with 6 Han-Yellock® modules

Number of contacts

5

500 V
20 A

Identification	Wire cross section (mm ²)	Part number	Drawing Dimensions in mm																											
Han- <i>Yellock</i> [®] , Crimp terminal, silver plated contacts, contact resistance ≤2 mOhm 		11 05 105 3001 11 05 105 3011 11 05 105 3012	  11 05 105 3001 grey 11 05 105 3011 blue 11 05 105 3012 red																											
Han- <i>Yellock</i> [®] , Crimp contact, gold plated contacts, contact resistance ≤2 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5 3 4	11 05 000 6121 11 05 000 6122 11 05 000 6123 11 05 000 6124 11 05 000 6125 11 05 000 6126 11 05 000 6127 11 05 000 6128																												
Han- <i>Yellock</i> [®] , Crimp contact, silver plated contacts, contact resistance ≤2 mOhm 	0.14–0.37 0.5 0.75 1 1.5 2.5 3 4	11 05 000 6101 11 05 000 6102 11 05 000 6103 11 05 000 6104 11 05 000 6105 11 05 000 6106 11 05 000 6107 11 05 000 6108	<table border="1"> <thead> <tr> <th colspan="2">Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm²</td> <td>AWG 26-22</td> <td>6.5 mm</td> </tr> <tr> <td>0.5 mm²</td> <td>AWG 20</td> <td>6.5 mm</td> </tr> <tr> <td>0.75 mm²</td> <td>AWG 18</td> <td>6.5 mm</td> </tr> <tr> <td>1 mm²</td> <td>AWG 18</td> <td>6.5 mm</td> </tr> <tr> <td>1.5 mm²</td> <td>AWG 16</td> <td>6.5 mm</td> </tr> <tr> <td>2.5 mm²</td> <td>AWG 14</td> <td>6.5 mm</td> </tr> <tr> <td>3 mm²</td> <td>AWG 12</td> <td>6.5 mm</td> </tr> <tr> <td>4 mm²</td> <td>AWG 12</td> <td>6.5 mm</td> </tr> </tbody> </table> <p>Removal tool 09 99 000 0319 see chapter 90</p>	Wire gauge		Stripping length	0.14-0.37 mm ²	AWG 26-22	6.5 mm	0.5 mm ²	AWG 20	6.5 mm	0.75 mm ²	AWG 18	6.5 mm	1 mm ²	AWG 18	6.5 mm	1.5 mm ²	AWG 16	6.5 mm	2.5 mm ²	AWG 14	6.5 mm	3 mm ²	AWG 12	6.5 mm	4 mm ²	AWG 12	6.5 mm
Wire gauge		Stripping length																												
0.14-0.37 mm ²	AWG 26-22	6.5 mm																												
0.5 mm ²	AWG 20	6.5 mm																												
0.75 mm ²	AWG 18	6.5 mm																												
1 mm ²	AWG 18	6.5 mm																												
1.5 mm ²	AWG 16	6.5 mm																												
2.5 mm ²	AWG 14	6.5 mm																												
3 mm ²	AWG 12	6.5 mm																												
4 mm ²	AWG 12	6.5 mm																												

Han-*Yellock*

Features

- Snap-in assembly from mating side and from termination side
- Bus bar within bridge attachments
- Visible bridge position from mating side and from termination side
- Fast and easy exchange

Technical characteristics

Contacts	5
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey), RAL 3000 (red), RAL 5015 (blue)


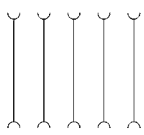
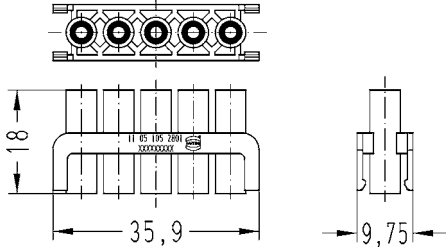

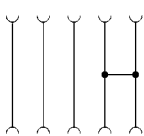
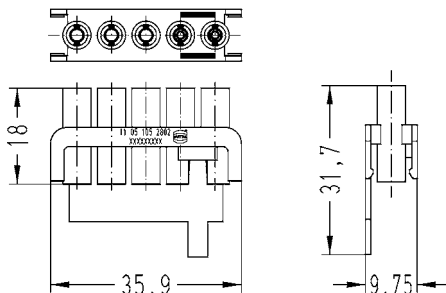
Specifications and approvals

IEC 60664-1
IEC 61984


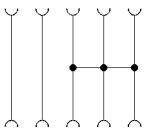
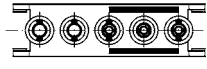
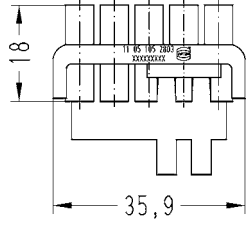
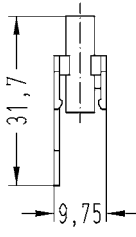

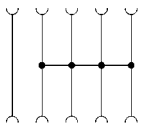
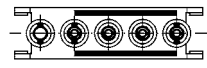
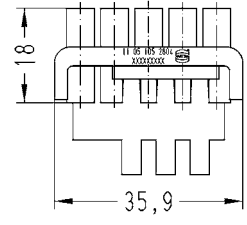
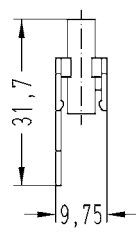

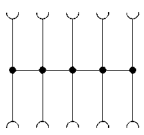
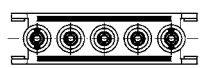
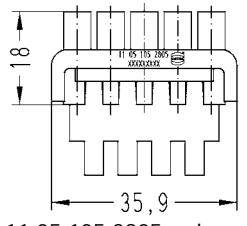
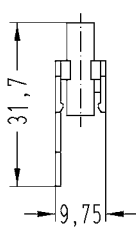



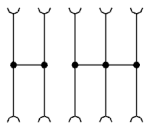

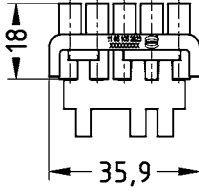
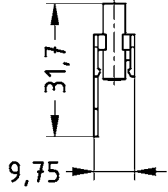
Number of contacts

5

Identification	Part number	Drawing Dimensions in mm
<p>Han-Yellock®, Multiplier, 1:1</p> 	<p>11 05 105 2801</p>	<p>Circuit diagram</p>  <p>0 bridged contacts 5 unbridged contacts</p> 
<p>Han-Yellock®, Multiplier, 2:3</p> 	<p>11 05 105 2802</p>	<p>Circuit diagram</p>  <p>2 bridged contacts 3 unbridged contacts</p> 

Han-Yellock

Identification	Part number	Drawing Dimensions in mm
<p>Han-Yellock®, Multiplier, 3:2</p> 	<p>11 05 105 2803</p>	<p>Circuit diagram</p>  <p>3 bridged contacts 2 unbridged contacts</p>    <p>Dimensions: 18, 35,9, 31,7, 9,75</p>
<p>Han-Yellock®, Multiplier, 4:1</p> 	<p>11 05 105 2804</p>	<p>Circuit diagram</p>  <p>4 bridged contacts 1 unbridged contacts</p>    <p>Dimensions: 18, 35,9, 31,7, 9,75</p>
<p>Han-Yellock®, Multiplier, 5:0</p> 	<p>11 05 105 2805 11 05 105 2815</p>	<p>Circuit diagram</p>  <p>5 bridged contacts 0 unbridged contacts</p>    <p>Dimensions: 18, 35,9, 31,7, 9,75</p> <p>11 05 105 2805 red 11 05 105 2815 blue</p>

Identification	Part number	Drawing Dimensions in mm
<p>Han-Yellock®, Multiplier, 2:3:0</p> 	<p>11 05 105 2823</p>	<p>Circuit diagram</p>  <p>2 bridged contacts 3 bridged contacts</p>   

Han-Yellock

Features

- Suitable for Han-Modular® modules
- Fast and tool-less assembly
- Snap-in assembly from mating side and from termination side
- Removal from mating side and from termination side possible

Technical characteristics

Flammability (insert) acc. to UL 94	V 0
Material (insert)	PC
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals

IEC 60664-1
IEC 61984



Details

Han-Yellock® adapter frame

Han-Modular® series interfaces can be established using the Han-Yellock® adapter frame. The connection is based on a male/female contact arrangement.

Inserting the adapter frame in the housing:

The adapter frame can be snapped into the housing, bulkhead mounting, on the termination side and the mating side (refer to the illustration).

The lateral plastic tabs („B“) are pressed into the metal clamps on the housing.

The adapter frame then snaps in with a distinctly audible click.

① metal clamp

Removal of the adapter frame:

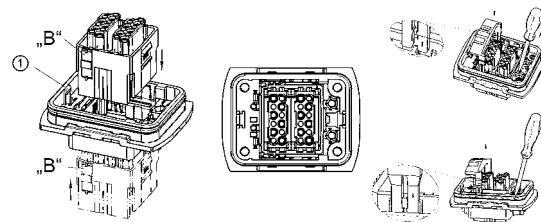
The removal tool part no. 11 99 000 0001 is required for disassembly. (see chapter 90)


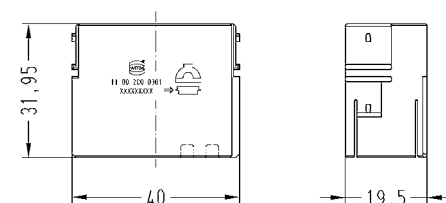

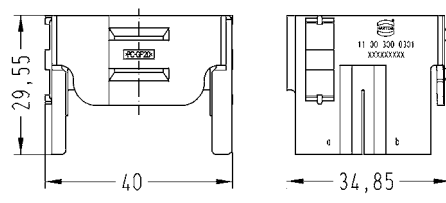

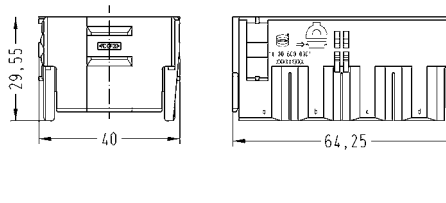

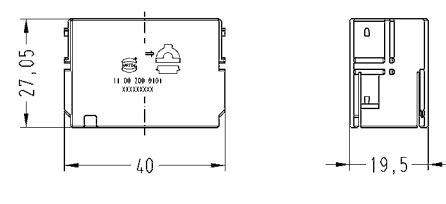

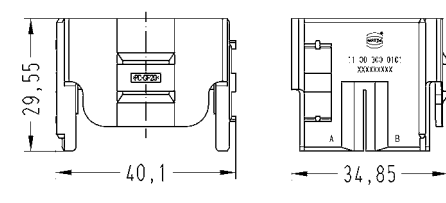
The removal tool is inserted into the metal clamp and pressed down as shown in the following illustration. A screwdriver need also be placed into the notch in the housing.

The removal tool should then be pulled outwards to remove the adapter frame from the housing.

The removal can be made from the termination side as well as from the mating side.

The process is identical for both housings, bulkhead mounting, and carrier hoods.



Identification	Part number	Drawing Dimensions in mm
<p>Han-Yellock®, Adapter frames, for Han-Yellock® 30 +60, for housings bulkhead mounting</p>  <p>Mounting/removal from termination side only!</p>	11 00 200 0301	
<p>Han-Yellock®, Adapter frames, for Han-Yellock® 30, for housings bulkhead mounting</p> 	11 00 300 0301	
<p>Han-Yellock®, Adapter frames, for Han-Yellock® 60, for housings bulkhead mounting</p> 	11 00 600 0301	
<p>Han-Yellock®, Adapter frames, for Han-Yellock® 30 +60, for carrier hoods</p>  <p>Mounting/removal from termination side only!</p>	11 00 200 0101	
<p>Han-Yellock®, Adapter frames, for Han-Yellock® 30, for carrier hoods</p> 	11 00 300 0101	

Han-Yellock

Features

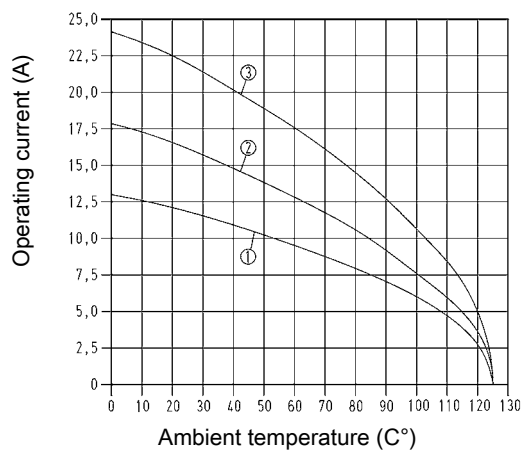
- Snap-in assembly from mating side and from termination side
- Finger safe design
- Fast and tool-less assembly

Derating

Current carrying capacity

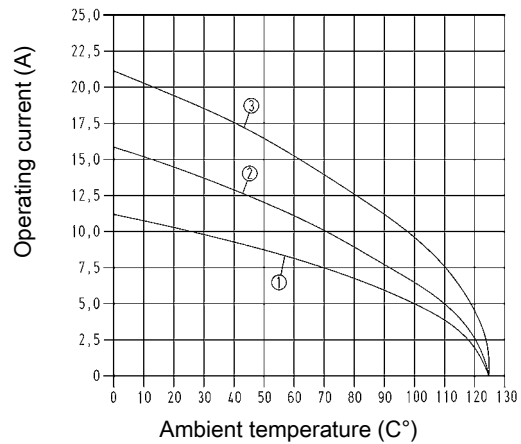
The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



- ① Wire cross section 1.5 mm²
- ② Wire cross section 2.5 mm²
- ③ Wire cross section 4 mm²

Derating



- ① Wire cross section 1.5 mm²
- ② Wire cross section 2.5 mm²
- ③ Wire cross section 4 mm²

Technical characteristics

Contacts	25, 48
Electrical data acc. to IEC 61984	16 A 500 V 6 kV 3
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)
Material (contact)	copper alloy

Specifications and approvals

IEC 60664-1
IEC 61984



Details


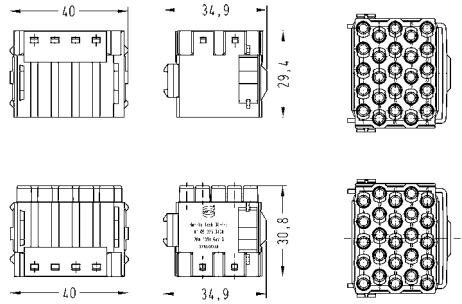

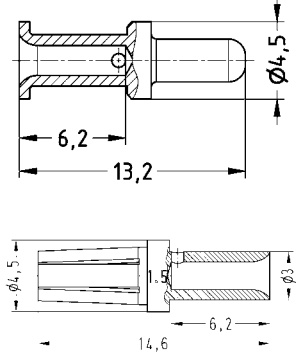

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

25


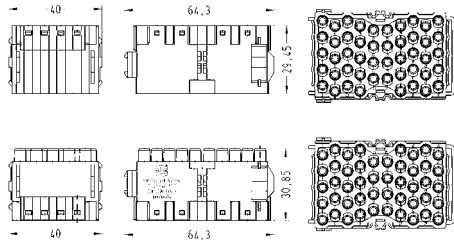

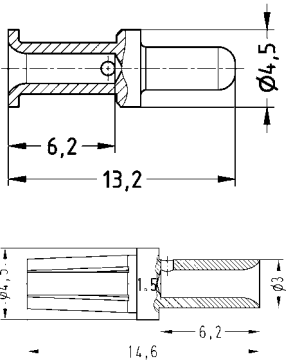

500 V
16 A

Identification	Wire cross section (mm²)	Part number		Drawing Dimensions in mm																											
		male	female																												
<p>Han-Yellock®, Crimp terminal</p>  <p>Please order crimp contacts separately. ATTENTION! It is not possible to use 2 monoblocks 30 in the Han-Yellock® 60 series!</p>		11 05 325 3001	11 05 325 3101																												
<p>Han-Yellock®, Crimp contact, gold plated contacts, contact resistance ≤2 mOhm</p> 	0.14–0.37 0.5 0.75 1 1.5 2.5 3 4	11 05 000 6121 11 05 000 6122 11 05 000 6123 11 05 000 6124 11 05 000 6125 11 05 000 6126 11 05 000 6127 11 05 000 6128	11 05 000 6221 11 05 000 6222 11 05 000 6223 11 05 000 6224 11 05 000 6225 11 05 000 6226 11 05 000 6227 11 05 000 6228																												
<p>Han-Yellock®, Crimp contact, silver plated contacts, contact resistance ≤2 mOhm</p> 	0.14–0.37 0.5 0.75 1 1.5 2.5 3 4	11 05 000 6101 11 05 000 6102 11 05 000 6103 11 05 000 6104 11 05 000 6105 11 05 000 6106 11 05 000 6107 11 05 000 6108	11 05 000 6201 11 05 000 6202 11 05 000 6203 11 05 000 6204 11 05 000 6205 11 05 000 6206 11 05 000 6207 11 05 000 6208	<table border="1"> <thead> <tr> <th colspan="2">Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm²</td> <td>AWG 26-22</td> <td>6.5 mm</td> </tr> <tr> <td>0.5 mm²</td> <td>AWG 20</td> <td>6.5 mm</td> </tr> <tr> <td>0.75 mm²</td> <td>AWG 18</td> <td>6.5 mm</td> </tr> <tr> <td>1 mm²</td> <td>AWG 18</td> <td>6.5 mm</td> </tr> <tr> <td>1.5 mm²</td> <td>AWG 16</td> <td>6.5 mm</td> </tr> <tr> <td>2.5 mm²</td> <td>AWG 14</td> <td>6.5 mm</td> </tr> <tr> <td>3 mm²</td> <td>AWG 12</td> <td>6.5 mm</td> </tr> <tr> <td>4 mm²</td> <td>AWG 12</td> <td>6.5 mm</td> </tr> </tbody> </table> <p>Removal tool 09 99 000 0319 see chapter 90</p>	Wire gauge		Stripping length	0.14-0.37 mm²	AWG 26-22	6.5 mm	0.5 mm²	AWG 20	6.5 mm	0.75 mm²	AWG 18	6.5 mm	1 mm²	AWG 18	6.5 mm	1.5 mm²	AWG 16	6.5 mm	2.5 mm²	AWG 14	6.5 mm	3 mm²	AWG 12	6.5 mm	4 mm²	AWG 12	6.5 mm
Wire gauge		Stripping length																													
0.14-0.37 mm²	AWG 26-22	6.5 mm																													
0.5 mm²	AWG 20	6.5 mm																													
0.75 mm²	AWG 18	6.5 mm																													
1 mm²	AWG 18	6.5 mm																													
1.5 mm²	AWG 16	6.5 mm																													
2.5 mm²	AWG 14	6.5 mm																													
3 mm²	AWG 12	6.5 mm																													
4 mm²	AWG 12	6.5 mm																													

Number of contacts

48

500 V
16 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm																											
		male	female																												
<p>Han-Yellock®, Crimp terminal</p>  <p>Please order crimp contacts separately.</p>		11 05 648 3001	11 05 648 3101																												
<p>Han-Yellock®, Crimp contact, gold plated contacts, contact resistance ≤2 mOhm</p> 	0.14–0.37 0.5 0.75 1 1.5 2.5 3 4	11 05 000 6121 11 05 000 6122 11 05 000 6123 11 05 000 6124 11 05 000 6125 11 05 000 6126 11 05 000 6127 11 05 000 6128	11 05 000 6221 11 05 000 6222 11 05 000 6223 11 05 000 6224 11 05 000 6225 11 05 000 6226 11 05 000 6227 11 05 000 6228																												
<p>Han-Yellock®, Crimp contact, silver plated contacts, contact resistance ≤2 mOhm</p> 	0.14–0.37 0.5 0.75 1 1.5 2.5 3 4	11 05 000 6101 11 05 000 6102 11 05 000 6103 11 05 000 6104 11 05 000 6105 11 05 000 6106 11 05 000 6107 11 05 000 6108	11 05 000 6201 11 05 000 6202 11 05 000 6203 11 05 000 6204 11 05 000 6205 11 05 000 6206 11 05 000 6207 11 05 000 6208	<table border="1"> <thead> <tr> <th colspan="2">Wire gauge</th> <th>Stripping length</th> </tr> </thead> <tbody> <tr> <td>0.14-0.37 mm²</td> <td>AWG 26-22</td> <td>6.5 mm</td> </tr> <tr> <td>0.5 mm²</td> <td>AWG 20</td> <td>6.5 mm</td> </tr> <tr> <td>0.75 mm²</td> <td>AWG 18</td> <td>6.5 mm</td> </tr> <tr> <td>1 mm²</td> <td>AWG 18</td> <td>6.5 mm</td> </tr> <tr> <td>1.5 mm²</td> <td>AWG 16</td> <td>6.5 mm</td> </tr> <tr> <td>2.5 mm²</td> <td>AWG 14</td> <td>6.5 mm</td> </tr> <tr> <td>3 mm²</td> <td>AWG 12</td> <td>6.5 mm</td> </tr> <tr> <td>4 mm²</td> <td>AWG 12</td> <td>6.5 mm</td> </tr> </tbody> </table> <p>Removal tool 09 99 000 0319 see chapter 90</p>	Wire gauge		Stripping length	0.14-0.37 mm ²	AWG 26-22	6.5 mm	0.5 mm ²	AWG 20	6.5 mm	0.75 mm ²	AWG 18	6.5 mm	1 mm ²	AWG 18	6.5 mm	1.5 mm ²	AWG 16	6.5 mm	2.5 mm ²	AWG 14	6.5 mm	3 mm ²	AWG 12	6.5 mm	4 mm ²	AWG 12	6.5 mm
Wire gauge		Stripping length																													
0.14-0.37 mm ²	AWG 26-22	6.5 mm																													
0.5 mm ²	AWG 20	6.5 mm																													
0.75 mm ²	AWG 18	6.5 mm																													
1 mm ²	AWG 18	6.5 mm																													
1.5 mm ²	AWG 16	6.5 mm																													
2.5 mm ²	AWG 14	6.5 mm																													
3 mm ²	AWG 12	6.5 mm																													
4 mm ²	AWG 12	6.5 mm																													

Han-Yellock

Features

- Metal hoods/housings for industrial applications
- Highly EMC resistant
- High robustness due to internal locking mechanism
- Compatible with inserts size Han® 3 A


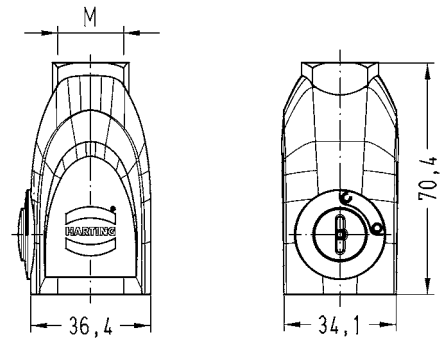

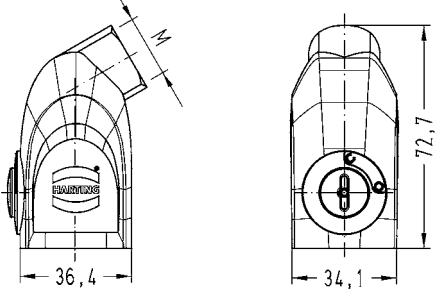
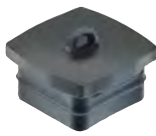
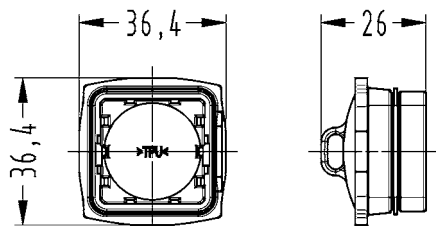
Technical characteristics

Un-/Locking temperatures	-10 °C ... 85 °C
Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Mating cycles	<500
Flammability (seal) acc. to UL 94	V 0
Degree of protection acc. to IEC 60529	IP65 / IP67, IP44
Material (hoods/housings)	zinc die-cast
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 7021 black/grey, black, RAL 7037 (grey)
Material (locking lever)	polyamide + stainless steel
Colour (locking lever)	melon yellow
Material (seal)	NBR


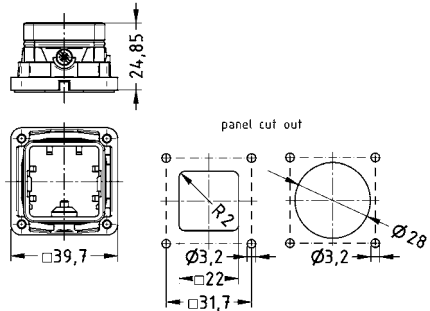

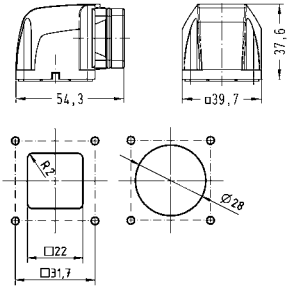

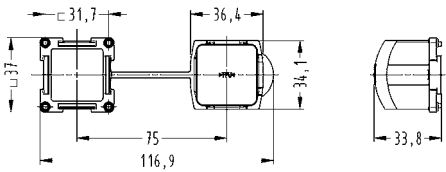

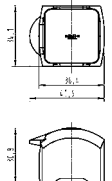
Specifications and approvals



Metal hoods/housings for industrial applications

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-Yellock®, Hoods, top entry, push button</p> 	<p>1xM20 1xM25</p>	<p>11 20 003 1400 11 20 003 1401</p>	
<p>Han-Yellock®, Hoods, angled entry, push button</p> 	<p>1xM20 1xM25</p>	<p>11 20 003 1600 11 20 003 1601</p>	
<p>Han-Yellock®, Protection cover for hoods, plastic</p> 		<p>11 20 003 5456</p>	

Han-Yellock

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-Yellock®, Bulkhead mounted housings, straight</p> 		11 20 003 0300	
<p>Han-Yellock®, Bulkhead mounted housings, angled</p> 		11 20 003 0800	
<p>Han-Yellock®, Protection cover for bulkhead mounted housings, with sealing, plastic</p> 		11 20 003 5406	
<p>Han-Yellock®, Protection cover for bulkhead mounted housings, without sealing, plastic</p> 		11 20 003 5407	

Features

- For three Han-Yellock® modules
- High robustness due to internal locking mechanism
- Two-part housing
- Earthed contacts PE in crimped or Han-Quick Lock® termination
- Protection cover retrofit on housing side

Technical characteristics

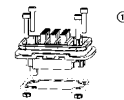
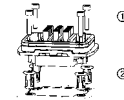
Un-/Locking temperatures	-10 °C ... 85 °C
Limiting temperatures	-40 °C ... 125 °C
Mating cycles	<500
Flammability (seal) acc. to UL 94	V 0
Degree of protection acc. to IEC 60529	IP65 / IP67
Material (hoods/housings)	zinc die-cast, aluminium
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 7037 (grey), black, RAL 7021 black/grey, white, RAL 9005 (black)
Material (locking lever)	polyamide + stainless steel
Colour (locking lever)	melon yellow
Material (seal)	NBR
Material (screwing)	stainless steel

Specifications and approvals

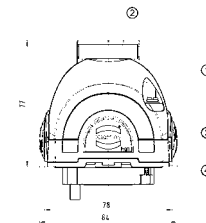
IEC 61984
IEC 60664-1



Details


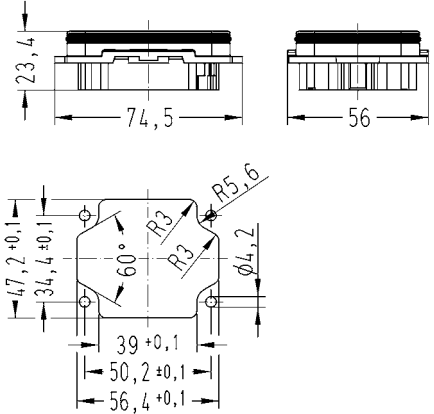

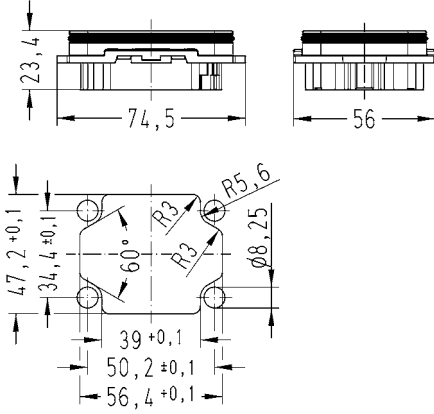
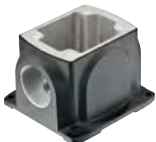
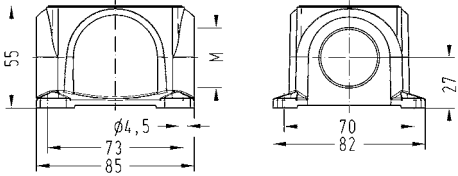



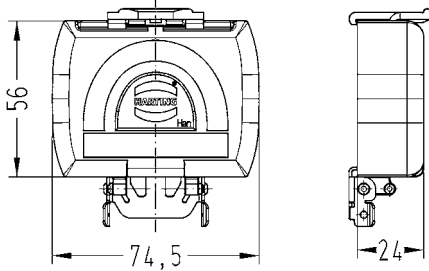

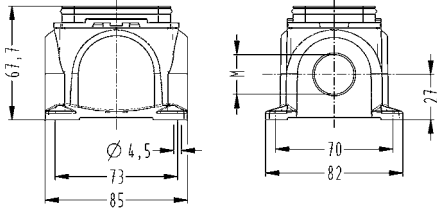

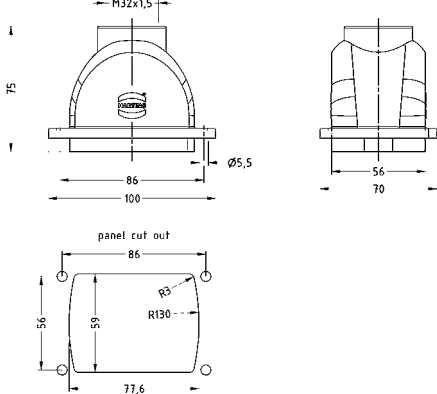
- ① M4 fixing screw (screw length > 20 mm, tightening torque: 1 Nm)
- ② panel fastener (tightening torque: 2.3 Nm)



- ① Shell with top entry
- ② Cable entry M20 ... M40
- ③ Carrier hood with push button release
- ④ Housings bulkhead mounting

Metal hoods/housings for industrial applications

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-Yellock®, Bulkhead mounted housings</p> 		11 12 300 0301	
<p>Han-Yellock®, Bulkhead mounted housings Range of delivery: 4 panel fastener included</p> 		11 12 300 0302	
<p>Han-Yellock®, Bulkhead and surface mounted housings, top entry, screw locking</p> 	<p>1xM20 1xM25 1xM32 2xM20 2xM25 2xM32</p>	<p>11 12 300 1200 11 12 300 1201 11 12 300 1202 11 12 300 1204 11 12 300 1205 11 12 300 1206</p>	


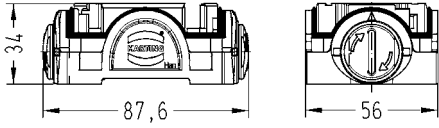

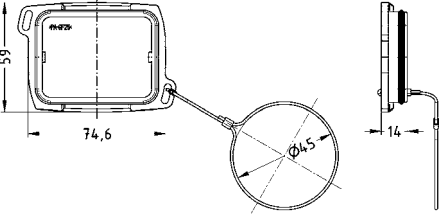
Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-Yellock®, Protection cover for bulkhead mounted housings, plastic</p> 		11 12 300 5401	
<p>Han-Yellock®, Surface mounted housings, incl. Housings bulkhead mounting, top entry, screw locking</p> 	<p>1xM20 1xM25 1xM32 2xM20 2xM25 2xM32</p>	<p>11 12 300 1210 11 12 300 1211 11 12 300 1212 11 12 300 1214 11 12 300 1215 11 12 300 1216</p>	
<p>Han-Yellock®, Panel feed through housings, top entry</p> 	1xM32	11 12 300 1702	

Metal hoods/housings for industrial applications

Identification	Cable entry	Part number	Drawing Dimensions in mm	
Han-Yellock®, Shell, top entry, screw locking	1xM20 1xM25 1xM32	11 12 300 1400 11 12 300 1401 11 12 300 1402		
Han-Yellock®, Shell, side entry, screw locking	1xM20 1xM25 1xM32	11 12 300 1500 11 12 300 1501 11 12 300 1502		
Han-Yellock®, Shell, white, side entry, screw locking	1xM20	11 12 300 1510		
Han-Yellock®, Shell, angled entry, screw locking	1xM20 1xM25 1xM32	11 12 300 1600 11 12 300 1601 11 12 300 1602		
Han-Yellock®, Carrier hood, plain push button		11 12 300 0100		

Han-Yellock



Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-Yellock®, Carrier hood, push button, slot</p> 		11 12 300 0110	
<p>Han-Yellock®, Protection covers for carrier hoods</p> 		11 12 300 5451	


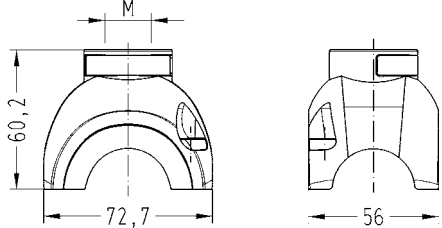

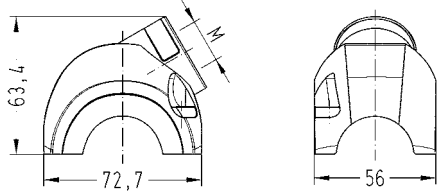

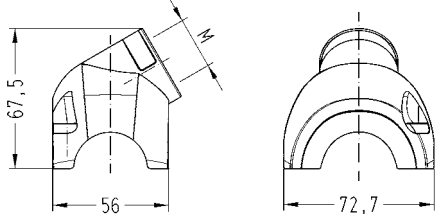


Han-Yellock

Metal hoods/housings for outdoor applications

Identification	Part number	Drawing Dimensions in mm
Han-Yellock®, Bulkhead mounted housings	11 13 300 0301	
Han-Yellock®, Bulkhead mounted housings Range of delivery: 4 panel fastener included	11 13 300 0302	



Metal hoods/housings for outdoor applications

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-Yellock®, Shell, top entry, screw locking 	1xM25	11 13 300 1401	
Han-Yellock®, Shell, side entry, screw locking 	1xM25	11 13 300 1501	
Han-Yellock®, Shell, angled entry, screw locking 	1xM25	11 13 300 1601	
Han-Yellock®, Carrier hood, plain push button 		11 13 300 0100	
Han-Yellock®, Carrier hood, push button, slot 		11 13 300 0110	

Han-Yellock

Features

- For six Han-Yellock® modules
- High robustness due to internal locking mechanism
- Two-part housing
- Earthed contacts PE in crimped or Han-Quick Lock® termination
- Protection cover retrofit on housing side

Technical characteristics

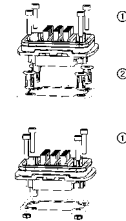
Un-/Locking temperatures	-10 °C ... 85 °C
Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Mating cycles	<500
Flammability (locking lever) acc. to UL 94	V 0
Degree of protection acc. to IEC 60529	IP65 / IP67
Tightening torque (locking)	1 Nm, 2.3 Nm, 1.2 Nm
Material (hoods/housings)	zinc die-cast, aluminium, PA
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 7037 (grey), RAL 7021 black/grey, black, RAL 9005 (black)
Material (locking lever)	polyamide + stainless steel
Colour (locking lever)	melon yellow, RAL 9005 (black)
Material (seal)	NBR
Material (screwing)	stainless steel

Specifications and approvals

IEC 60664-1
IEC 61984


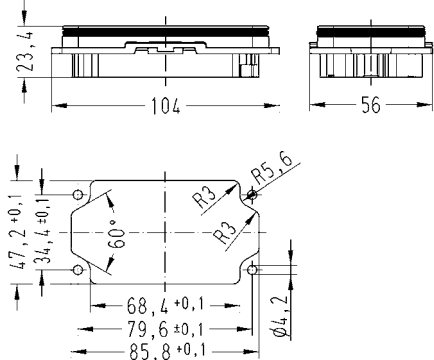

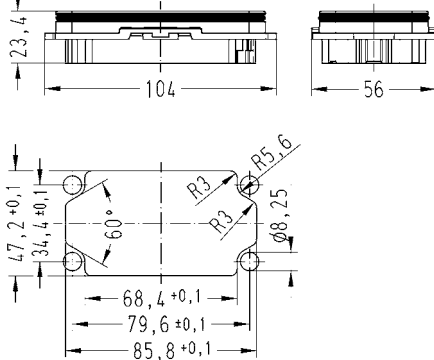

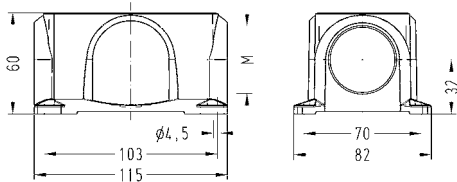

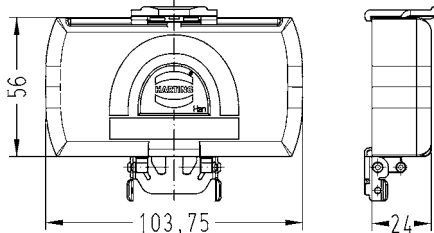


Details


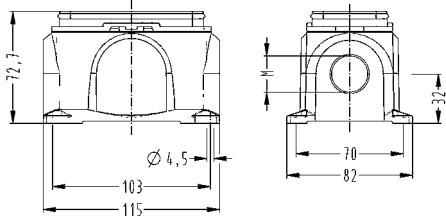

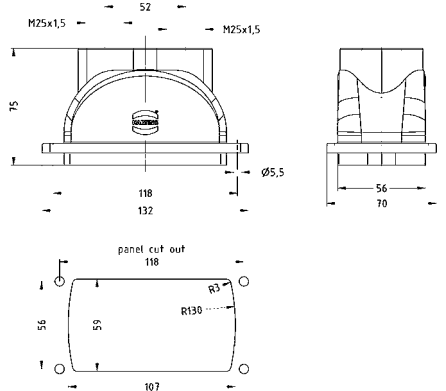


- ① M4 fixing screw (screw length > 20 mm, tightening torque: 1 Nm)
- ② panel fastener (tightening torque: 2.3 Nm)


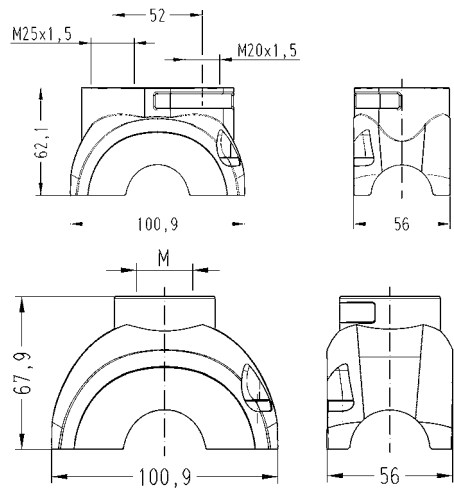

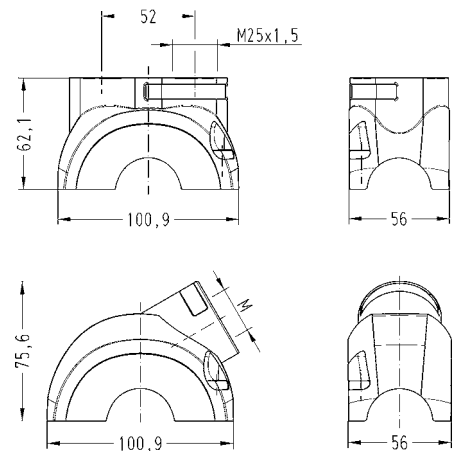

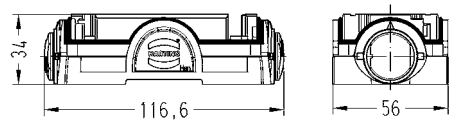
Metal hoods/housings for industrial applications


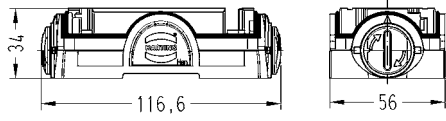

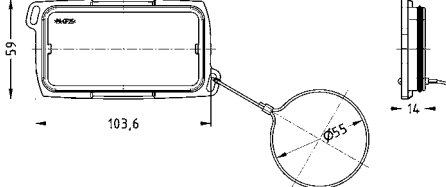
Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-Yellock®, Bulkhead mounted housings</p> 		11 12 600 0301	
<p>Han-Yellock®, Bulkhead mounted housings Range of delivery: 4 panel fastener included</p> 		11 12 600 0302	
<p>Han-Yellock®, Bulkhead and surface mounted housings, side entry, screw locking</p> 	<p>1xM25 1xM32 1xM40 2xM25 2xM32 2xM40</p>	<p>11 12 600 1201 11 12 600 1202 11 12 600 1203 11 12 600 1205 11 12 600 1206 11 12 600 1207</p>	
<p>Han-Yellock®, Protection cover for bulkhead mounted housings, plastic</p> 		11 12 600 5401	

Han-Yellock

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-Yellock®, Surface mounted housings, incl. Housings bulkhead mounting, side entry, screw locking</p> 	<p>1xM25 1xM32 1xM40 2xM25 2xM32 2xM40</p>	<p>11 12 600 1211 11 12 600 1212 11 12 600 1213 11 12 600 1215 11 12 600 1216 11 12 600 1217</p>	
<p>Han-Yellock®, Panel feed through housings, top entry</p> 	<p>2xM25</p>	<p>11 12 600 1711</p>	

Metal hoods/housings for industrial applications

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-Yellock®, Shell, top entry</p> 	<p>1xM20, 1xM25 1xM25 1xM32 1xM40 2xM25</p>	<p>11 12 600 1415 11 12 600 1401 11 12 600 1402 11 12 600 1403 11 12 600 1411</p>	
<p>Han-Yellock®, Shell, side entry</p> 	<p>1xM25 1xM32 1xM40</p>	<p>11 12 600 1501 11 12 600 1502 11 12 600 1503</p>	
<p>Han-Yellock®, Carrier hood, plain push button</p> 		<p>11 12 600 0100</p>	


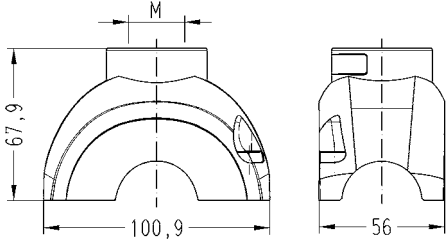

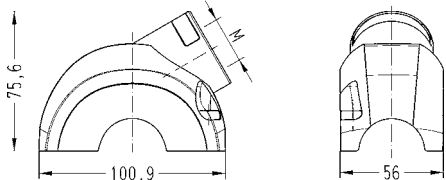

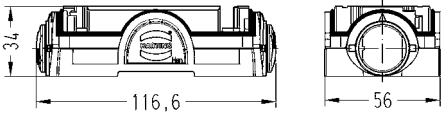

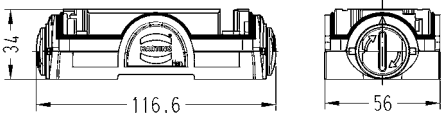
Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-Yellok®, Carrier hood, push button, slot</p> 		11 12 600 0110	
<p>Han-Yellok®, Protection covers for carrier hoods</p> 		11 12 600 5451	

Metal hoods/housings for outdoor applications

Identification	Part number	Drawing Dimensions in mm
Han-Yellock®, Bulkhead mounted housings	11 13 600 0301	
Han-Yellock®, Bulkhead mounted housings Range of delivery: 4 panel fastener included	11 13 600 0302	


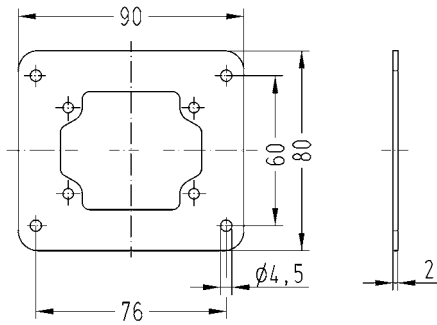

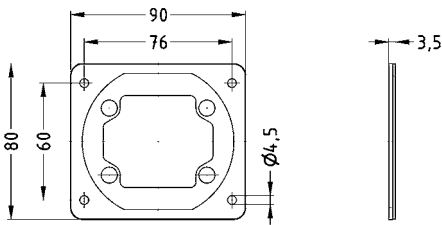
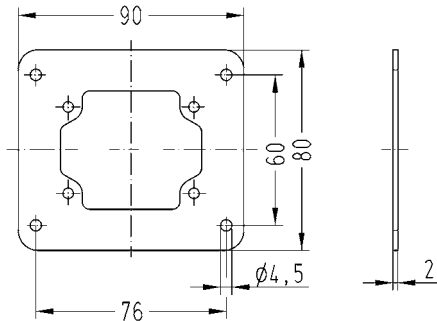
Han-Yellock

Metal hoods/housings for outdoor applications


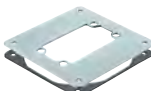


Identification	Cable entry	Part number	Drawing Dimensions in mm	
<p>Han-Yellock®, Shell, top entry</p> 	<p>1xM32 1xM40</p>	<p>11 13 600 1402 11 13 600 1403</p>		
<p>Han-Yellock®, Shell, side entry</p> 	<p>1xM32</p>	<p>11 13 600 1502</p>		
<p>Han-Yellock®, Carrier hood, plain push button</p> 		<p>11 13 600 0100</p>		
<p>Han-Yellock®, Carrier hood, push button, slot</p> 		<p>11 13 600 0110</p>		

Technical characteristics


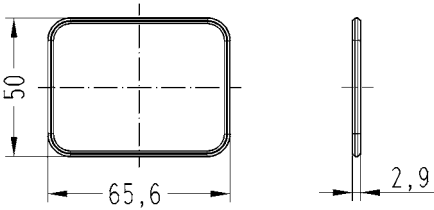

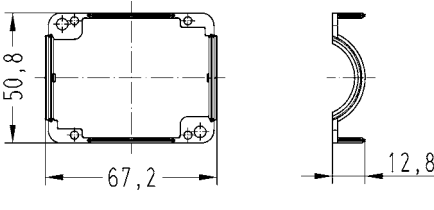

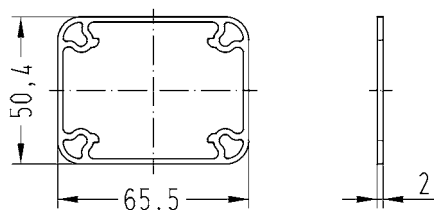

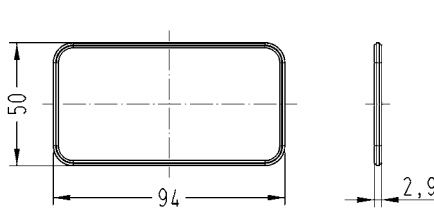

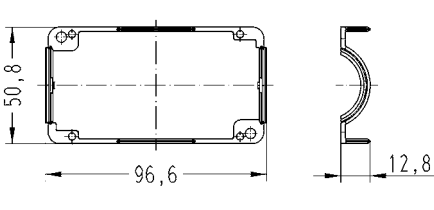

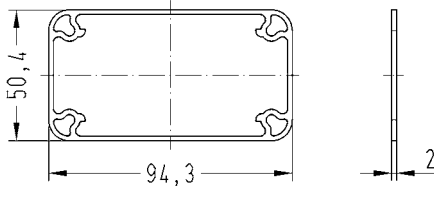
Material (seal) NBR

Identification	Size	Part number	Drawing Dimensions in mm
Adapter plate, for Han-Yellock® 30  circular 68 mm punch for Han-Yellock® panel cut out		11 00 300 9601	
Adapter plate, for Han-Yellock® 30, with gasket 		11 00 300 9603	
			

Han-Yellock

Identification	Size	Part number	Drawing Dimensions in mm
Adapter plate, for Han-Yellock® 60		11 00 600 9601	
Adapter plate, for Han-Yellock® 60, with gasket		11 00 600 9603	
Flange gasket, for Han-Yellock® 10		11 20 003 9904	
Profile gasket, for Han-Yellock® 10		11 20 003 9905	

Han-Yellock

Identification	Size	Part number	Drawing Dimensions in mm	
Profile gasket, for Han-Yellock® 30		11 00 300 9501		
Shaped gasket, for Han-Yellock® 30		11 00 300 9502		
Flange gasket, for Han-Yellock® 30		11 00 300 9503		
Profile gasket, for Han-Yellock® 60		11 00 600 9501		
Shaped gasket, for Han-Yellock® 60		11 00 600 9502		
Flange gasket, for Han-Yellock® 60		11 00 600 9503		

Han-Yellock


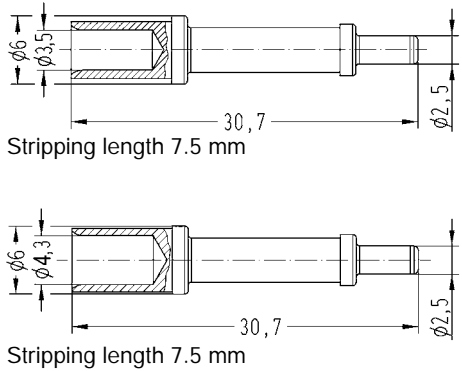


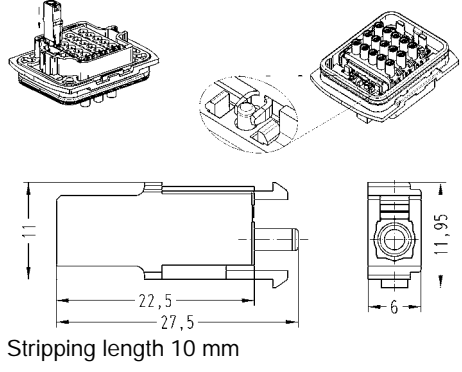
Identification	Size	Part number	Drawing Dimensions in mm
Coding element, plastic Range of delivery: 8 pieces per frame		11 00 000 9501	
Fixing screws	M3	11 20 003 9903	
Identification strip Range of delivery: 500 pieces on a reel		11 00 000 9601	
Shielding frame, for Han-Yellock® 30, for cable clamp fitting		11 12 300 5201	
Shielding frame, for Han-Yellock® 30, ground clamp		11 12 300 5202	
Shielding frame, for Han-Yellock® 60, for cable clamp fitting		11 12 600 5201	

Technical characteristics

Material (contact) copper alloy

Details

Crimping tools see chapter 90

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han-Yellock [®] , Crimp terminal, PE contact 	6 10	11 00 000 9509 11 00 000 9510		 <p>Stripping length 7.5 mm</p> <p>Stripping length 7.5 mm</p>
 Han-Quick Lock [®] Han-Yellock [®] , PE contact chamber 	0.5–2.5	11 05 001 2601	11 05 001 2601	 <p>Stripping length 10 mm</p>

Han-Yellock



The KR 6 R900 sixx (KR AGILUS) with Han-Yellock® combines functional design and high technical requirements.

Photo courtesy: KUKA Roboter GmbH

Contents	Page
Module overview for applications with Han-Eco®	29.3
Han-Eco® Monoblocks.....	29.6
Hoods/housings for industrial applications	29.11
Hoods/housings for outdoor applications	29.24
Accessories	29.37

Description of the Han-Eco® system



Han-Eco® – a new hood and housing series made of high-performance plastic material.

Han-Eco® is the ideal solution for applications that do not require the full range of product features offered by the Han® B series of hoods and housings, and users want to take advantage of the weight and cost advantages.

Like the Han® B standard series, the Han-Eco® series is available in the following sizes: 6 B, 10 B, 16 B and 24 B. The cable entries are available with metric threading, a cable gland is implemented. For housing sizes 6 B and 10 B size of the cable gland is M32, for 16 B and 24 B cable gland M40 is used.

Han-Eco® hoods and housings are made of high-performance plastic that is highly resistant to environmental stress and – in combination with the design - provides very good mechanical stability. When the connector is closed and locked, it provides degree of protection IP 65 as defined in DIN EN 60 529. With seals made of high UV- and ozone-resistant material FPM (Fluororubber) the Han-Eco® hoods and housings are fit for outdoor use. The material also meets demanding flammability requirements of UL 94 Class V 0.

Fast, simple assembly is another outstanding product feature. Click-and-mate design totally eliminates the need for tools during assembly of the Han-Eco® hoods and housings.

The Han-Eco® hoods and housings are compatible with the range of modules from the Han-Modular® series. One extra module fits into the Han-Eco® hoods and housing compared to the equivalent product in the Han® B Standard series. This special feature applies to all four sizes.

A optional PE module has been developed specifically for the Han-Eco® hoods and housings to hold the protective ground conductor.

















Advantages:






- Weight reduction combined with mechanical strength
- Quick and easy assembly without tools – also possible to mount the modules from the rear side of the cabinet
- Highly resistant to environmental stress, suitable for use in outdoor applications
- Complete range of modules from Han-Modular® series usable (with exception of modules with imperative guiding pins [male and female])





Assembly details



Series	Han® 100 A Axial module	Han® 100 A Crimp module	Han® 100 A Single module	Han® 70 A Crimp module
Number of contacts	2	2	1	2
Modules	Axial screw terminal 	Crimp terminal 	Axial screw terminal 	Crimp terminal 
Rated current	100 A	100 A	100 A	70 A
Rated voltage	1000 V	1000 V	830 V	1000 V
Wire gauge	10 ... 38 mm ²	10 ... 35 mm ²	10 ... 35 mm ²	10 ... 25 mm ²
Series	Han® 70 A Axial module	Han® 70 A Hybrid module	Han® 40 A Axial module	Han® 40 A Crimp module
Number of contacts	2	1 / 4	2	2
Modules	Axial screw terminal 	Axial screw terminal 	Axial screw terminal 	Crimp terminal 
Rated current	70 A	70 A / 16 A	40 A	40 A
Rated voltage	1000 V	1000 V / 400 V	1000 V	1000 V
Wire gauge	6 ... 22 mm ²	6 ... 22 mm ² / 0.14 ... 4 mm ²	2.5 ... 10 mm ²	1.5 ... 10 mm ²
Series	Han® C Axial module	Han® C module	Han® CC Protected module	Han® CD module
Number of contacts	3	3	4	3
Modules	Axial screw terminal 	Crimp terminal 	Crimp terminal 	Crimp terminal 
Rated current	40 A	40 A	40 A	40 A
Rated voltage	690 V	400 / 690 V	830 V	830 V
Wire gauge	2.5 ... 10 mm ²	1.5 ... 10 mm ²	1.5 ... 6 mm ²	1.5 ... 6 mm ²
Series	Han® E Quick Lock module	Han E® module	Han E® Screw module	Han® EE module
Number of contacts	6	6	5	8
Modules	Quick Lock terminal 	Crimp terminal 	Screw terminal 	Crimp terminal 
Rated current	16 A	16 A	16 A	16 A
Rated voltage	500 V	500 V	230 V / 400 V	400 V
Wire gauge	0.5 ... 2.5 mm ²	0.14 ... 4 mm ²	0.5 ... 2.5 mm ²	0.14 ... 4 mm ²

Series	Han® EE Quick Lock module	Han E® Protected module	Han® EEE module	Han® ES module
Number of contacts	8	6	20	5
Modules	Quick Lock termination 	Crimp terminal 	Crimp terminal 	Cage-clamp terminal 
Rated current	16 A	16 A	16 A	16 A
Rated voltage	400 V	830 V	500 V	400 V
Wire gauge	0.5 ... 2.5 mm ²	0.14 ... 4 mm ²	0.14 ... 4 mm ²	0.14 ... 2.5 mm ²
Series	Han® HV Single module*	Han® HV module*	Han® HV module*	Han DD® module
Number of contacts	2	2	2	12
Modules	Crimp terminal 	Crimp terminal 	Crimp terminal 	Crimp terminal 
Rated current	16 A	16 A	40 A	10 A
Rated voltage	2500 V	2900 / 5000 V	2900 / 5000 V	250 V
Wire gauge	0.5 ... 4 mm ²	0.5 ... 4 mm ²	1.5 ... 10 mm ²	0.14 ... 2.5 mm ²
Series	Han DD® Quick Lock module	Han® DDD module	Han® High Density module	Han® D-Sub module
Number of contacts	12	17	25	9
Modules	Quick Lock termination 	Crimp terminal 	Crimp terminal 	Crimp terminal 
Rated current	10 A	10 A	4 A	5 A
Rated voltage	250 V	160 V	50 V	50 V
Wire gauge	0.25 ... 1.5 mm ²	0.14 ... 2.5 mm ²	0.08 ... 0.52 mm ²	0.08 ... 0.52 mm ²
Series	Han® USB module	Han® FireWire module	Han® RJ45 module	Han® GigaBit module*
Number of contacts	4 / 8	6	8	8
Modules	USB 2.0 / 3.0 	IEEE 1394 	Ethernet Cat. 6 	Ethernet Cat. 6 

Series	Han® MegaBit module*	Han-Quintax® module			
Number of contacts	2 x 4	2			
Modules	Ethernet Cat. 5e				
Contacts		 <p>Han-Quintax® contact 4 + shielding</p>	 <p>High Density Quintax contact 8 + shielding</p>	 <p>Han D® Coax contact 75 Ω 1 + shielding</p> <p>75 Ω</p>	 <p>Han E® Coax contact 50 Ω 1 + shielding</p> <p>50 Ω</p>

Series	Han® SC module	Han-Elisa®	Han® Dummy module
Number of contacts	4		
Modules			
Contacts	<p>SC contact for GI 50; 62.5 / 125 μm</p>  <p>For the use with Han-Eco® please order female module 09 14 004 4713. Only for multimode fiber.</p>	<p>Temperature I/O modules ID module</p>	

Features

- Suitable for Han-Eco® hoods/housings and the Han-Modular® docking frame
- Higher contact density compared to Han E® standard screw inserts (up to 65%)
- Han-Eco® “click and mate” assembly concept
- 6 coding options

Technical characteristics

Contacts	10, 14, 20, 28
Electrical data acc. to IEC 61984	16 A 500 V 6 kV 3
Rated current	16 A
Rated voltage	500 V
Rated impulse voltage	6 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Rated voltage acc. to CSA	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)


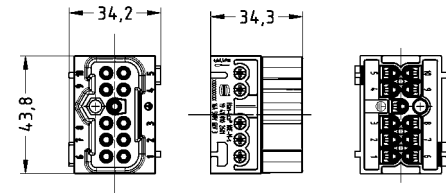
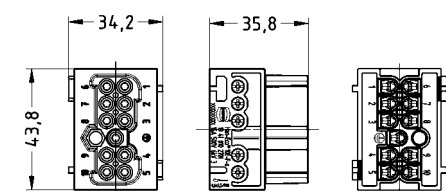

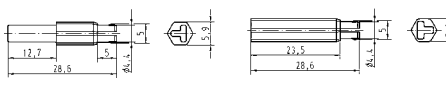
Specifications and approvals

IEC 60664-1
IEC 61984

Number of contacts

10+


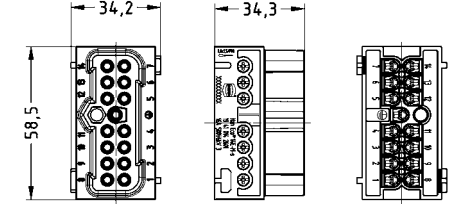
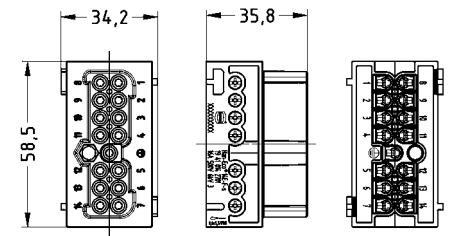

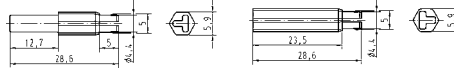
500 V
16 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han-Eco®, Screw terminal, with wire protection 	0.75–2.5	19 41 010 2601	19 41 010 2701	male  female 
Coding element, plastic 		09 12 000 9901	09 12 000 9902	

Number of contacts

14+

500 V
16 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han-Eco®, Screw terminal, with wire protection 	0.75 – 2.5	19 41 014 2601	19 41 014 2701	male  female 
Coding element, plastic 		09 12 000 9901	09 12 000 9902	

Han-Eco

Number of contacts

20+

500 V
16 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han-Eco®, Screw terminal, with wire protection 	0.75–2.5	19 41 020 2601	19 41 020 2701	male female
Coding element, plastic 		09 12 000 9901	09 12 000 9902	

Number of contacts

28+

500 V
16 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han-Eco®, Screw terminal, with wire protection 	0.75 – 2.5	19 41 028 2601	19 41 028 2701	<p>male</p> <p>female</p>
Coding element, plastic 		09 12 000 9901	09 12 000 9902	

Han-Eco

Features

- Available with integrated cable gland
- Optional PE contact module to hold the protective ground conductor
- Not mating compatible with series Han® B
- Capable for applications according protection class II

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Flammability acc. to NFF 16 101 / 16 102	F2 / I3
Flammability acc. to EN 45 545-2:2013	Class R22: HL1, HL2, Class R23: HL1, HL2, HL3, Class R24: HL1, HL2, HL3
Flammability (locking lever) acc. to UL 94	V 0
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	polyamide, fibre-glass reinforced
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	polyamide, fibre-glass reinforced
Colour (locking lever)	RAL 9005 (black)
Material (seal)	NBR

Specifications and approvals


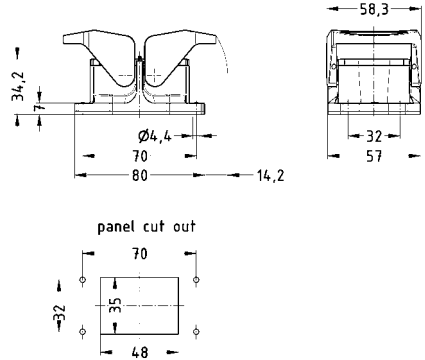
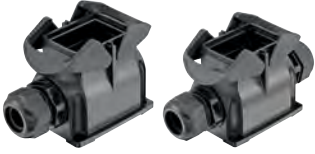
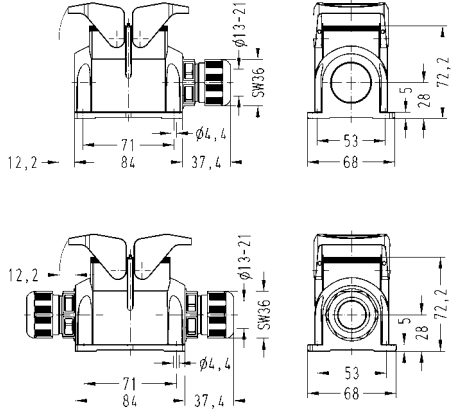

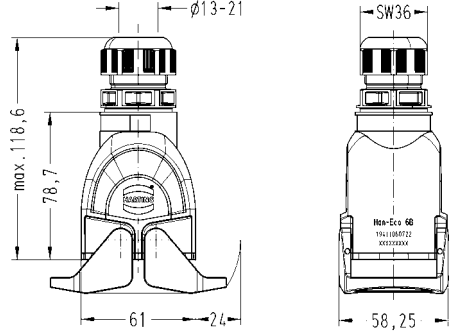
IEC 61984




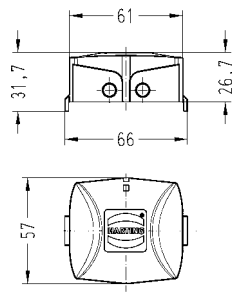
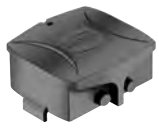
double locking lever

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-Eco®, Hoods, side entry	1xM32	19 41 006 0522	
Han-Eco®, Hoods, top entry	1xM32	19 41 006 0422	
Han-Eco®, Hood with integrated cable gland, side entry	1xM32	19 41 106 0522	
Han-Eco®, Hood with integrated cable gland, top entry	1xM32	19 41 106 0422	
Han-Eco®, Protection cover for hoods		19 41 006 5406	
Han-Eco®, Protection cover for hoods, with securing flex		19 41 006 5407	

Han-Eco

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-Eco®, Bulkhead mounted housings 		19 41 006 0301	
Han-Eco®, Surface mounted housings, side entry	1xM32 2xM32	19 41 006 0232 19 41 006 0272	
Han-Eco®, Surface mounted housings with integrated cable gland, side entry 	1xM32 2xM32	19 41 106 0232 19 41 106 0272	
Han-Eco®, Cable to cable housings, top entry	1xM32	19 41 006 0722	
Han-Eco®, Cable to cable housings with integrated cable gland, top entry 	1xM32	19 41 106 0722	




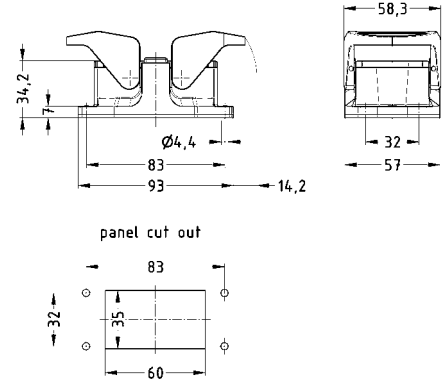

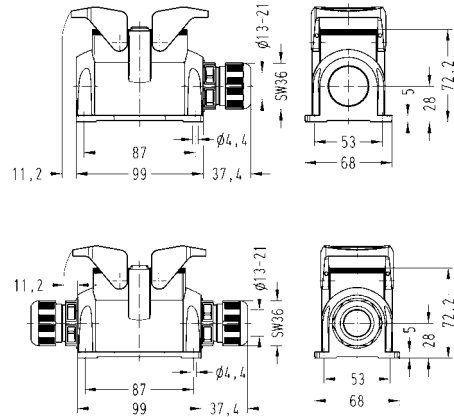

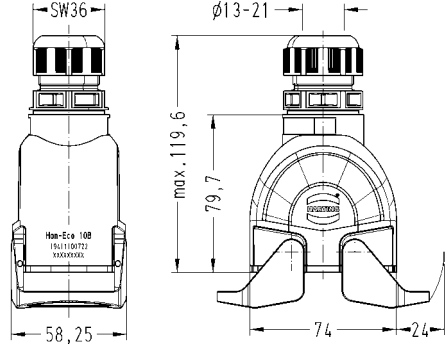
Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-Eco®, Protection cover for housings, with securing flex</p> 		19 41 006 5404	
<p>Han-Eco®, Protection cover for housings</p> 		19 41 006 5405	

Han-Eco


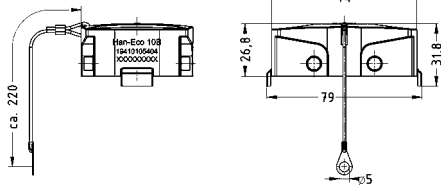

double locking lever

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-Eco®, Hoods, side entry	1xM32	19 41 010 0522	
Han-Eco®, Hoods, top entry	1xM32	19 41 010 0422	
Han-Eco®, Hood with integrated cable gland, side entry	1xM32	19 41 110 0522	
Han-Eco®, Hood with integrated cable gland, top entry	1xM32	19 41 110 0422	
Han-Eco®, Protection cover for hoods		19 41 010 5406	
Han-Eco®, Protection cover for hoods, with securing flex		19 41 010 5407	

Han-Eco

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-Eco®, Bulkhead mounted housings 		19 41 010 0301	
Han-Eco®, Surface mounted housings, side entry	1xM32 2xM32	19 41 010 0232 19 41 010 0272	
Han-Eco®, Surface mounted housings with integrated cable gland, side entry 	1xM32 2xM32	19 41 110 0232 19 41 110 0272	
Han-Eco®, Cable to cable housings, top entry	1xM32	19 41 010 0722	
Han-Eco®, Cable to cable housings with integrated cable gland, top entry 	1xM32	19 41 110 0722	


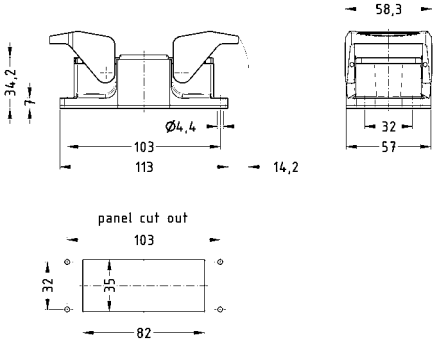

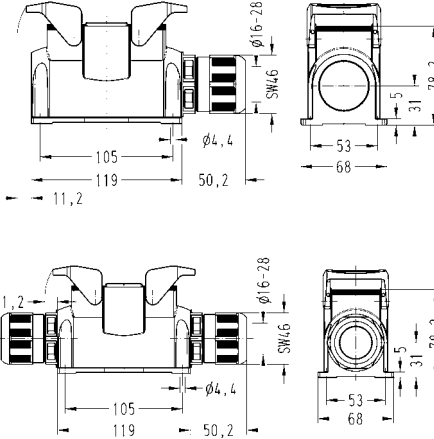

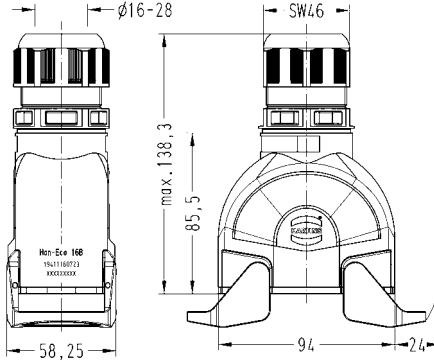

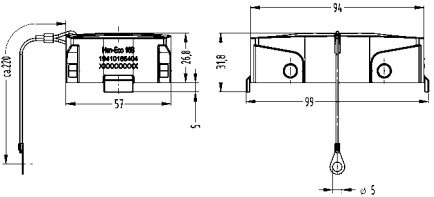
Han-Eco

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-Eco®, Protection cover for housings, with securing flex</p> 		19 41 010 5404	
<p>Han-Eco®, Protection cover for housings</p> 		19 41 010 5405	


double locking lever

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-Eco®, Hoods, side entry	1xM40	19 41 016 0523	
Han-Eco®, Hoods, top entry	1xM40	19 41 016 0423	
Han-Eco®, Hood with integrated cable gland, side entry	1xM40	19 41 116 0523	
Han-Eco®, Hood with integrated cable gland, top entry	1xM40	19 41 116 0423	
Han-Eco®, Protection cover for hoods		19 41 016 5406	
Han-Eco®, Protection cover for hoods, with securing flex		19 41 016 5407	

Han-Eco

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-Eco®, Bulkhead mounted housings 		19 41 016 0301	
Han-Eco®, Surface mounted housings, side entry	1xM40 2xM40	19 41 016 0233 19 41 016 0273	
Han-Eco®, Surface mounted housings with integrated cable gland, side entry 	1xM40 2xM40	19 41 116 0233 19 41 116 0273	
Han-Eco®, Cable to cable housings, top entry	1xM40	19 41 016 0723	
Han-Eco®, Cable to cable housings with integrated cable gland, top entry 	1xM40	19 41 116 0723	
Han-Eco®, Protection cover for housings, with securing flex 		19 41 016 5404	



Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-Eco®, Protection cover for housings</p> 		19 41 016 5405	


Han-Eco

double locking lever

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-Eco®, Hoods, side entry	1xM40	19 41 024 0523	
Han-Eco®, Hoods, top entry	1xM40	19 41 024 0423	
Han-Eco®, Hood with integrated cable gland, side entry	1xM40	19 41 124 0523	
Han-Eco®, Hood with integrated cable gland, top entry	1xM40	19 41 124 0423	
Han-Eco®, Protection cover for hoods		19 41 024 5406	
Han-Eco®, Protection cover for hoods, with securing flex		19 41 024 5407	

Han-Eco



Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-Eco®, Protection cover for housings</p> 		<p>19 41 024 5405</p>	

Features

- Available with integrated cable gland
- Optional PE contact module to hold the protective ground conductor
- Not mating compatible with series Han® B

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Flammability acc. to NFF 16 101 / 16 102	F2 / I3
Flammability acc. to EN 45 545-2:2013	Class R22: HL1, HL2, Class R23: HL1, HL2, HL3, Class R24: HL1, HL2, HL3
Flammability (locking lever) acc. to UL 94	V 0
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	polyamide, fibre-glass reinforced
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	polyamide, fibre-glass reinforced
Colour (locking lever)	RAL 9005 (black)
Material (seal)	FPM
Colour (seal)	RAL 7001 (silver-grey)

Specifications and approvals


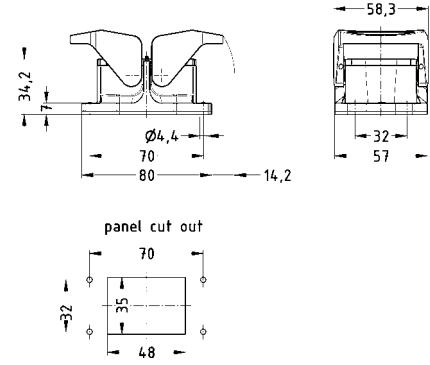

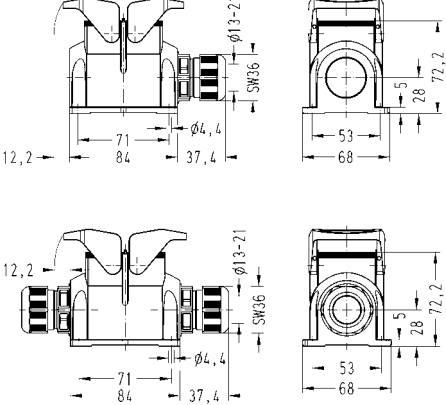

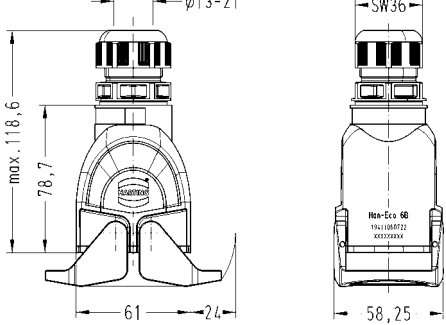
IEC 61984




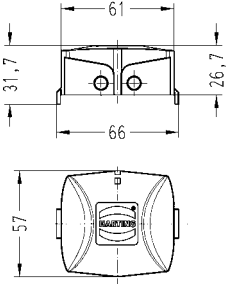

double locking lever


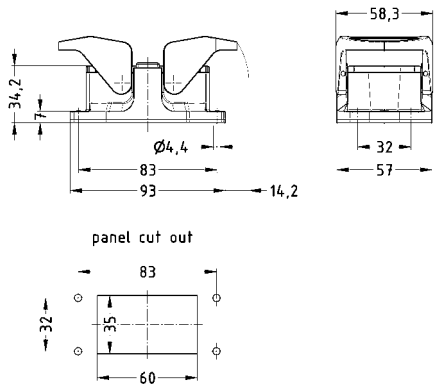

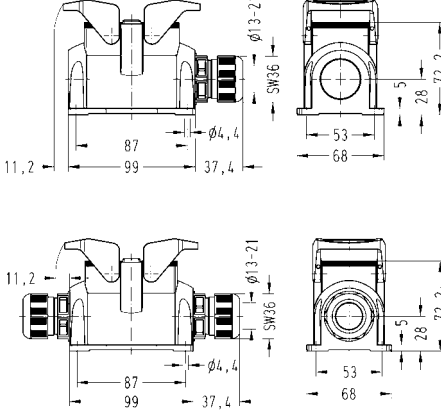

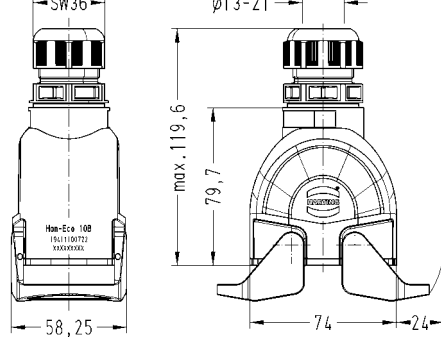
Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-Eco®, Hoods, side entry	1xM32	19 41 006 0522	
Han-Eco®, Hoods, top entry	1xM32	19 41 006 0422	
Han-Eco®, Hood with integrated cable gland, side entry	1xM32	19 41 106 0522	
Han-Eco®, Hood with integrated cable gland, top entry	1xM32	19 41 106 0422	
Han-Eco®, Protection cover for hoods		19 41 206 5406	
Han-Eco®, Protection cover for hoods, with securing flex		19 41 206 5407	


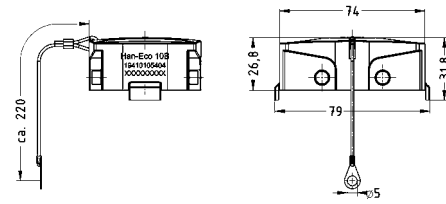

Han-Eco

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-Eco®, Bulkhead mounted housings 		19 41 206 0301	
Han-Eco®, Surface mounted housings, side entry	1xM32 2xM32	19 41 206 0232 19 41 206 0272	
Han-Eco®, Surface mounted housings with integrated cable gland, side entry 	1xM32 2xM32	19 41 306 0232 19 41 306 0272	
Han-Eco®, Cable to cable housings, top entry	1xM32	19 41 206 0722	
Han-Eco®, Cable to cable housings with integrated cable gland, top entry Han-Eco 	1xM32	19 41 306 0722	



Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-Eco®, Protection cover for housings, with securing flex</p> 		19 41 006 5404	
<p>Han-Eco®, Protection cover for housings</p> 		19 41 006 5405	

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-Eco [®] , Bulkhead mounted housings 		19 41 210 0301	
Han [®] B, Surface mounted housings, side entry	1xM32 2xM32	19 41 210 0232 19 41 210 0272	
Han [®] B, Surface mounted housings with integrated cable gland, side entry 	1xM32 2xM32	19 41 310 0232 19 41 310 0272	
Han-Eco [®] , Cable to cable housings, top entry	1xM32	19 41 210 0722	
Han-Eco [®] , Cable to cable housings with integrated cable gland, top entry 	1xM32	19 41 310 0722	


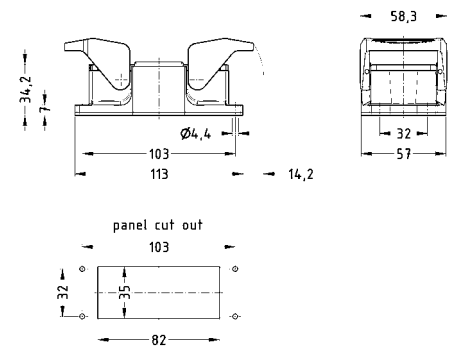

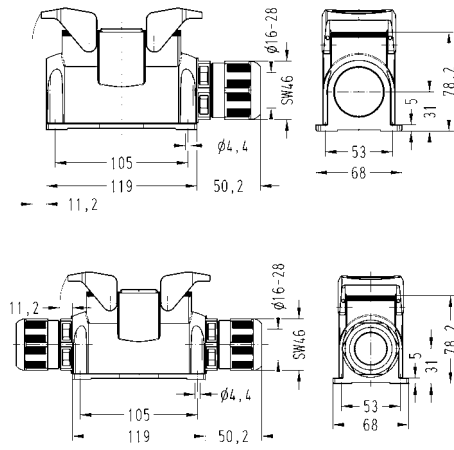

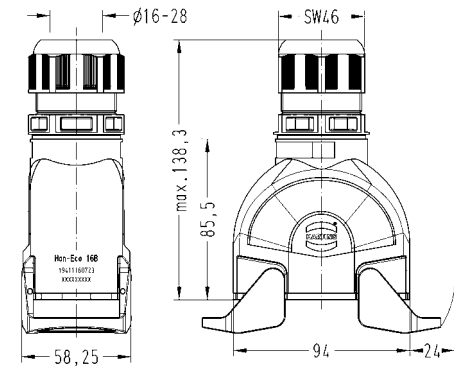

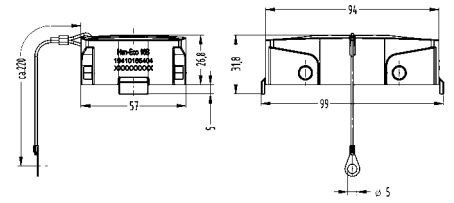
Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-Eco®, Protection cover for housings, with securing flex</p> 		19 41 010 5404	
<p>Han-Eco®, Protection cover for housings</p> 		19 41 010 5405	

Han-Eco

double locking lever


Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-Eco®, Hoods, side entry	1xM40	19 41 016 0523	
Han-Eco®, Hoods, top entry	1xM40	19 41 016 0423	
Han-Eco®, Hood with integrated cable gland, side entry	1xM40	19 41 116 0523	
Han-Eco®, Hood with integrated cable gland, top entry	1xM40	19 41 116 0423	
Han-Eco®, Protection cover for hoods		19 41 216 5406	
Han-Eco®, Protection cover for hoods, with securing flex		19 41 216 5407	

Han-Eco


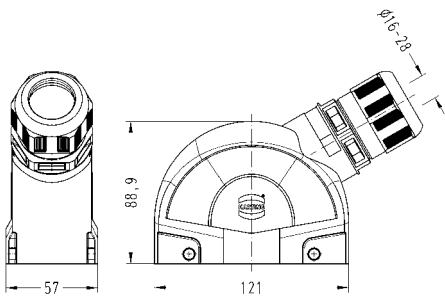

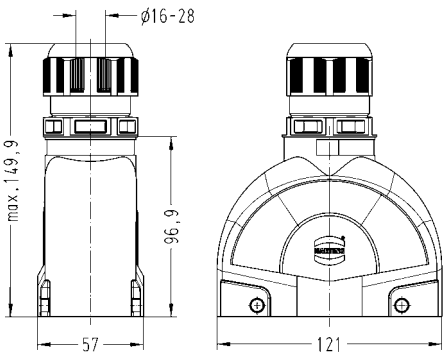

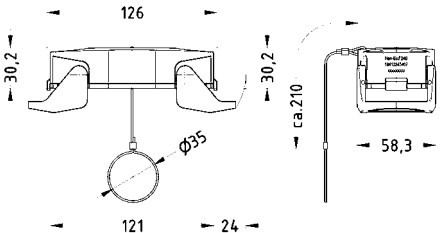
Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® B, Bulkhead mounted housings 		19 41 216 0301	
Han-Eco®, Surface mounted housings, side entry	1xM40 2xM40	19 41 216 0233 19 41 216 0273	
Han-Eco®, Surface mounted housings with integrated cable gland, side entry 	1xM40 2xM40	19 41 316 0233 19 41 316 0273	
Han-Eco®, Cable to cable housings, top entry	1xM40	19 41 216 0723	
Han-Eco®, Cable to cable housings with integrated cable gland, top entry Han-Eco 	1xM40	19 41 316 0723	
Han-Eco®, Protection cover for housings, with securing flex 		19 41 016 5404	

Han-Eco







Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-Eco®, Protection cover for housings</p> 		19 41 016 5405	


double locking lever

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-Eco®, Hoods, side entry	1xM40	19 41 024 0523	
Han-Eco®, Hoods, top entry	1xM40	19 41 024 0423	
Han-Eco®, Hood with integrated cable gland, side entry 	1xM40	19 41 124 0523	
Han-Eco®, Hood with integrated cable gland, top entry 	1xM40	19 41 124 0423	
Han-Eco®, Protection cover for hoods		19 41 224 5406	
Han-Eco®, Protection cover for hoods, with securing flex 		19 41 224 5407	


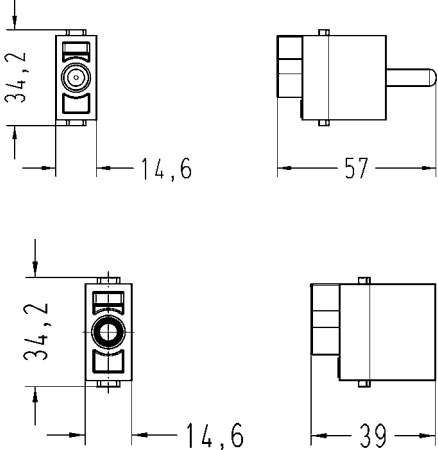
Han-Eco

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-Eco®, Bulkhead mounted housings 		19 41 224 0301	
Han® B, Surface mounted housings, side entry	1xM40 2xM40	19 41 224 0233 19 41 224 0273	
Han® B, Surface mounted housings with integrated cable gland, side entry 	1xM40 2xM40	19 41 324 0233 19 41 324 0273	
Han® B, Cable to cable housings, top entry	1xM40	19 41 224 0723	
Han® B, Cable to cable housings with integrated cable gland 	1xM40	19 41 324 0723	
Han-Eco®, Protection cover for housings, with securing flex 		19 41 024 5404	



Identification	Cable entry	Part number	Drawing Dimensions in mm
<p data-bbox="89 315 395 371">Han-Eco®, Protection cover for housings</p> 		19 41 024 5405	

Han-Eco


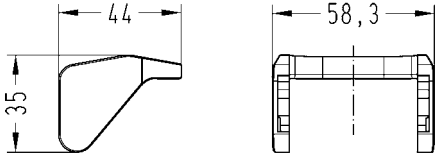

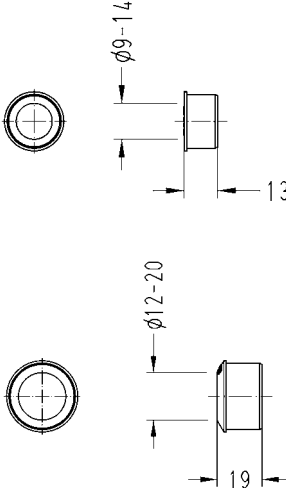
Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
<p>Han-Eco[®], PE contact module, with screw terminal</p>  <p>with 09 99 000 0830 HARTING Crimping tool also cable up to 25 mm² with ferrule adaptable</p>	1.5-16	19 41 001 2600	19 41 001 2700	

Technical characteristics

Material (accessories) plastic

Technical characteristics

Colour (accessories) black

Identification	Size	Part number	Drawing Dimensions in mm
Cable gland	M32 M40	19 41 000 5131 19 41 000 5141	
 Han-Eco®, Locking lever, for all sizes		19 41 000 5201	
 Han-Eco®, Reduction sealing insert	M32 M40	19 41 000 5132 19 41 000 5142	

Technical characteristics

Material (accessories) NBR

Technical characteristics

Colour (accessories) black

Identification	Size	Part number	Drawing Dimensions in mm
----------------	------	-------------	-----------------------------

Han-Eco®,
Flange gasket,
NBR



6 B
10 B
16 B
24 B

19 41 000 9801
19 41 000 9802
19 41 000 9803
19 41 000 9804

Han-Eco®,
Profile gasket,
NBR



6 B
10 B
16 B
24 B

19 41 000 9901
19 41 000 9902
19 41 000 9903
19 41 000 9904



Photo courtesy: Robolights

Installation of multiple services through a single lightweight connector assembly

When the Grand Opera House, York in the United Kingdom wanted to upgrade its 12 motorised hoists, drive system and control, a UK custom panel builder put together a design that would allow individual speed and direction control of each of the flying bars from a central console. They manufactured the control console, connection point and interconnecting cables along with a custom wheeled frame to allow easy movement of the console around the stage. This project made use of HARTING's recently introduced modular Han-Eco® system connectors which allow the integration of multiple services, contact types and ratings into a single connector assembly.

Contents	Page
Hoods/Housings, metal Han® 3 A.....	31.4
Hoods/Housings, thermoplastic Han® 3 A.....	31.10
Standard hoods/housings Han® 10-32 A	31.16
Standard hoods/housings Han® B	31.26
Han® Easy Hood hoods/housings.....	31.73
Han-Drive® hoods/housings.....	31.77
Han® 3 M hoods/housings	31.80
Han® M hoods/housings	31.84
Han® 3 EMC hoods/housings	31.97
Han® EMC hoods/housings	31.101
Han® EMC/B hoods/housings.....	31.108
Han® 3 HPR hoods/housings.....	31.118
Han® HPR hoods/housings.....	31.127
Han-INOX® hoods/housings	31.146

Han® 3 A Standard Hoods/Housings Metal hoods/housings for industrial applications

Material	zinc die-cast
Colour	RAL 7037 (grey)
Surface	powder-coated
Locking element	steel, zinc-plated
Lever type	lever, metal
Hoods/Housings seal	NBR
Limiting temperatures	-40 °C ... +125 °C
Flammability acc. to UL 94	V 0
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP44 IP67 is achieved with seal screw 09 20 000 9918

Han-Drive® Housings for motor applications

Material	aluminium die-cast
Colour	non coloured / RAL 7037 (grey)
Surface	electrical conductive / powder-coated / unpainted
Locking element	stainless steel
Lever type	Han-Easy Lock®
Hoods/Housings seal	NBR
Limiting temperatures	-40 °C ... +125 °C
Approval acc. to UL 50	NEMA Type 4/4X/12
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP65

Han® 3 A Hoods/Housings Plastic hoods/housings for industrial applications

Material	polycarbonate
Colour	RAL 7032 (light grey) / RAL 9005 (black)
Locking element	polyamide
Lever type	lever, plastic
Hoods/Housings seal	NBR
Limiting temperatures	-40 °C ... +125 °C
Approval acc. to UL 50	NEMA Type 4/4X/12
Flammability acc. to UL 94	V 0
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP44 IP67 is achieved with seal screw 09 20 000 9918

Han® 3 M Hoods/Housings Hoods/Housings for higher environmental requirements

Material	zinc die-cast
Colour	RAL 9005 (black)
Surface	- Top coat epoxy powder paint
Locking element	stainless steel
Lever type	lever, metal
Hoods/Housings seal	FPM
Limiting temperatures	-40 °C ... +125 °C
Corrosion resistance	ASTM B117-09 (500 h)
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP44 IP67 is achieved with seal screw 09 20 000 9918

Han® Standard Hoods/Housings Metal hoods/housings for industrial applications

Material	aluminium die-cast
Colour	RAL 7037 (grey)
Surface	powder-coated
Locking element	stainless steel
Lever type	Han-Easy Lock®
Hoods/Housings seal	NBR
Limiting temperatures	-40 °C ... +125 °C
Approval acc. to UL 50	NEMA Type 4/4X/12
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP65

Han® M Hoods/Housings Hoods/Housings for higher environmental requirements

Material	aluminium die-cast
Colour	RAL 9005 (black)
Surface	- Top coat epoxy powder paint
Locking element	stainless steel
Lever type	lever, metal
Hoods/Housings seal	FPM
Limiting temperatures	-40 °C ... +125 °C
Approval acc. to UL 50	NEMA Type 4/4X/12
Corrosion resistance	ASTM B117-09 (500 h)
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP65

Han® 3 EMC Hoods/Housings Hoods/Housings for higher EMC requirements

Material	zinc die-cast
Colour	non coloured
Surface	electrical conductive
Locking element	steel, zinc-plated
Lever type	lever, metal
Hoods/Housings seal	NBR
Limiting temperatures	-40 °C ... +125 °C
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP44 IP67 is achieved with seal screw 09 20 000 9918

Han-INOX® Hoods/Housings for higher corrosion requirements

Material	stainless steel
Colour	non coloured
Surface	electrical conductive
Locking element	stainless steel
Lever type	lever, metal
Hoods/Housings seal	NBR
Limiting temperatures	-40 °C ... +125 °C
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP65 IP44 IP67 is achieved with seal screw 09 20 000 9918
- Size Han® 3 A	

Han® EMC Hoods/Housings Hoods/Housings for higher EMC requirements

Material	aluminium die-cast
Colour	non coloured
Surface	electrical conductive
Locking element	
- Screw locking	M5
- Material	stainless steel
- Tightening torque	3 Nm
Hoods/Housings seal	NBR
Limiting temperatures	-40 °C ... +125 °C
Approval acc. to UL 50	NEMA Type 4/4X/12
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP65

Han® 3 HPR Hoods/Housings Hoods/Housings for harsh environmental requirements

Material	zinc die-cast
Colour	RAL 9005 (black)
Surface	
- Top coat	epoxy powder paint / chromated
Locking element	
- Screw locking	M4
- Material	stainless steel
- Tightening torque	2 Nm
Hoods/Housings seal	NBR
Limiting temperatures	-40 °C ... +125 °C
Corrosion resistance	ASTM B117-09 (500 h)
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP68 / IP69K

Attention
The sealing on the insert has to be removed.
The sealing screw of the insulation body must be replaced by the sealing screw of the hood.

Han® EMC/B Hoods/Housings Hoods/Housings for higher EMC requirements

Material	
- Hoods/Housings	aluminium die-cast
- shielded frames	zinc die-cast alloy
Colour	non coloured
Surface	
- Hoods/Housings	electrical conductive
- shielded frames	electrical conductive
Locking element	stainless steel
Lever type	Han-Easy Lock®
Hoods/Housings seal	NBR
Limiting temperatures	-40 °C ... +125 °C
Approval acc. to UL 50	NEMA Type 4/4X/12
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP65

Han® HPR Hoods/Housings Hoods/Housings for harsh environmental requirements

Material	aluminium die-cast, corrosion resistant
Colour	RAL 9005 (black)
Surface	
- Top coat	epoxy powder paint
Locking element	
- Screw locking	M6
- Material	stainless steel
- Tightening torque	4 Nm
- Toggle locking	
- Material	stainless steel
Hoods/Housings seal	NBR
Limiting temperatures	-40 °C ... +125 °C
Approval acc. to UL 50	NEMA Type 4/4X/12
Corrosion resistance	ASTM B117-09 (500 h)
Degree of protection acc. to DIN EN 60 529 for coupled connector	IP68 / IP69K (does not apply to Han® 48 HPR)

Features

- Metal hoods/housings for industrial applications

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Degree of protection acc. to IEC 60529	IP44 / IP67 is achieved with seal screw 09 20 000 9918
Material (hoods/housings)	zinc die-cast
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 7037 (grey)
Material (locking lever)	steel, zinc-plated
Material (seal)	NBR

Specifications and approvals


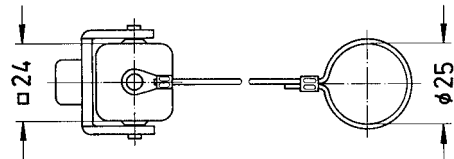

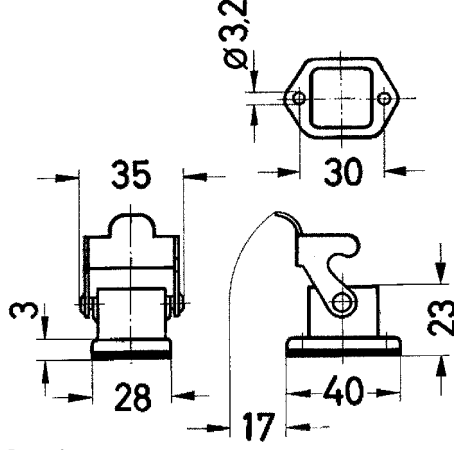

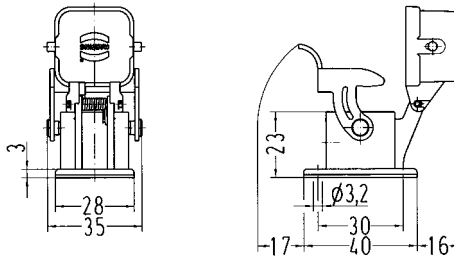



Metal hoods/housings for industrial applications
double locking lever

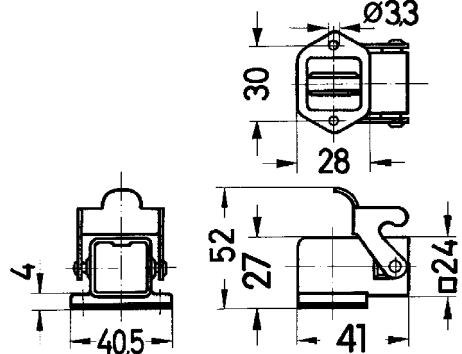
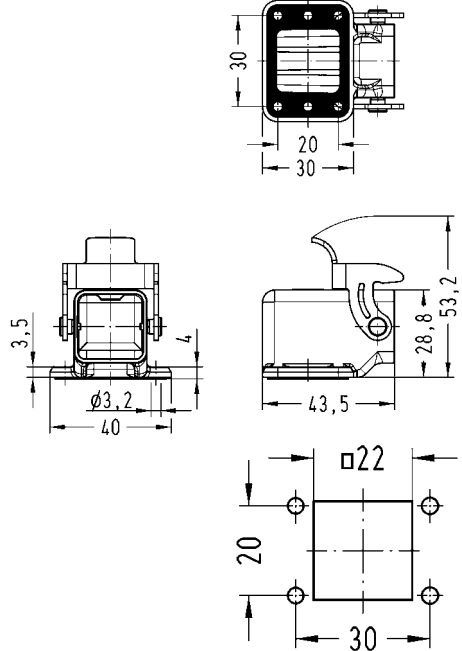
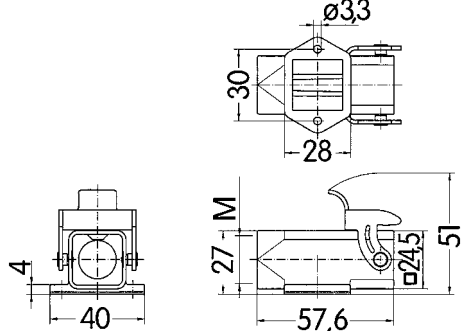
Identification	Cable entry	Part number	Drawing Dimensions in mm
Han A® , Hoods, top entry	1xM20	19 20 003 1440	
Han A® , Hoods, side entry	1xM20	19 20 003 1640	
Han A® , Hood with integrated cable gland, top entry	6...12 mm 11...17 mm	19 20 003 1421 19 20 003 1422	
Han A® , Protection cover for hoods, for mounted female insert, metal, with securing flex, with sealing		09 20 003 5421	

Hoods
Housings


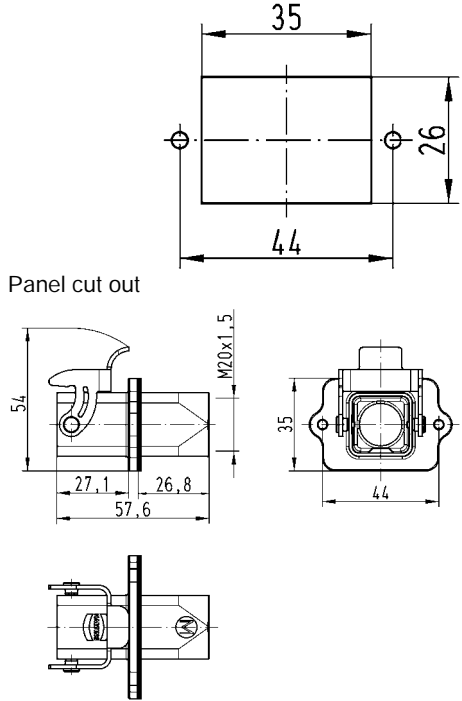

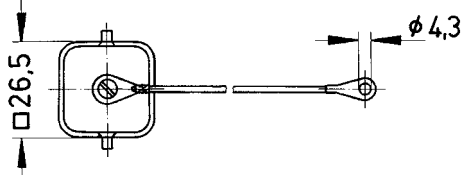

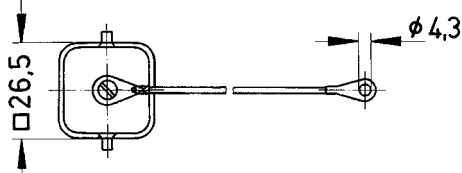

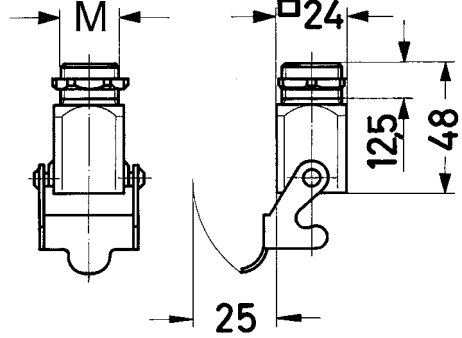


Identification	Cable entry	Part number	Drawing Dimensions in mm
Han A®, Protection cover for hoods, for mounted male insert or for mounted Han-Brid® insert, metal, with securing flex 		09 20 003 5422	
Han A®, Bulkhead mounted housings, straight 		09 20 003 0301	 <p>Panel cut out 22 x 22 mm</p>
Han A®, Bulkhead mounted housings, straight, with metal cover, for male inserts 		09 20 003 0305	 <p>Panel cut out 22 x 22 mm</p>
Han A®, Bulkhead mounted housings, straight, with sealing, for female inserts 		09 20 003 0306	

Hoods
Housings

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han A® , Bulkhead mounted housings, angled, 2 fixing screws		09 20 003 0801	 <p>Panel cut out 22 x 22 mm</p>
Han A® , Bulkhead mounted housings, angled, 4 fixing screws		09 20 003 0810	 <p>Panel cut out 22 x 22 mm</p>
Han A® , Surface mounted housings, top entry, open bottom	1xM20	19 20 003 1250	 <p>Panel cut out 22 x 22 mm</p>

Hoods
Housings

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han A®, Panel feed through housings, top entry</p> 	<p>1xM20</p>	<p>19 20 003 1120</p>	 <p>Panel cut out</p>
<p>Han A®, Protection cover for housings, for mounted female insert or for mounted Han-Brid® insert, metal, with securing flex, with sealing</p> 		<p>09 20 003 5425</p>	
<p>Han A®, Protection cover for housings, for mounted male insert, metal, with securing flex</p> 		<p>09 20 003 5426</p>	
<p>Han A®, Screw mounted housings, top entry</p> 	<p>1xM20</p>	<p>19 20 003 1150</p>	

Features

- Plastic hoods/housings for industrial applications


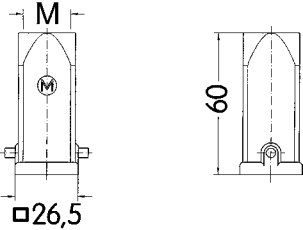

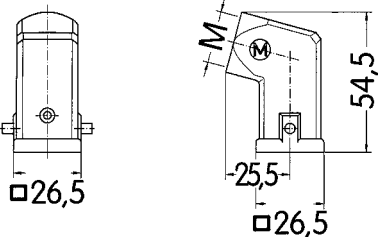

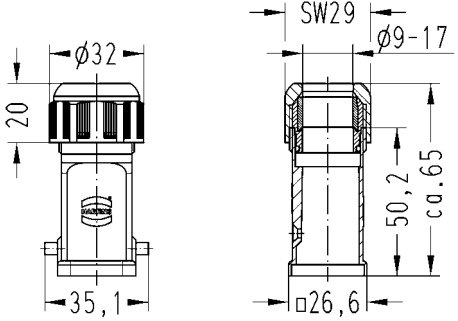
Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Flammability (locking lever) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP44 / IP67 is achieved with seal screw 09 20 000 9918
Material (hoods/housings)	polycarbonate
Colour (hoods/housings)	RAL 7032 (light grey), RAL 9005 (black)
Material (locking lever)	polyamide
Colour (locking lever)	RAL 7032 (light grey), RAL 9005 (black)
Material (seal)	NBR

Specifications and approvals


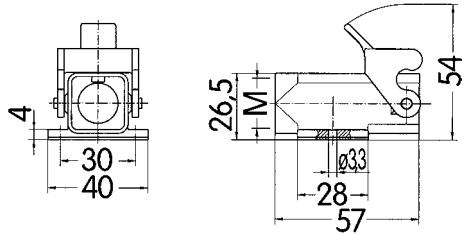


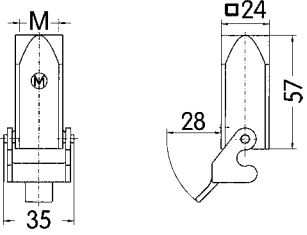


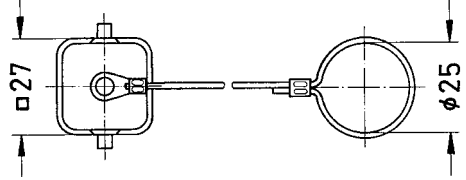

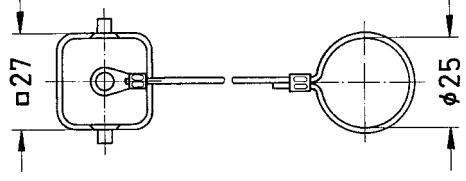


Plastic hoods/housings for industrial applications
double locking lever


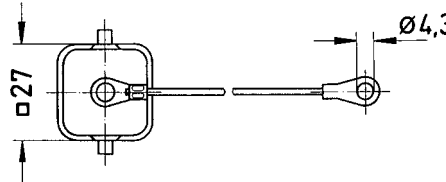


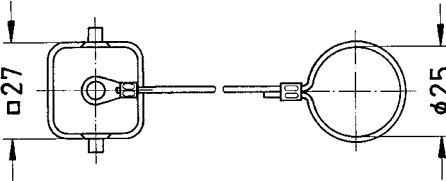


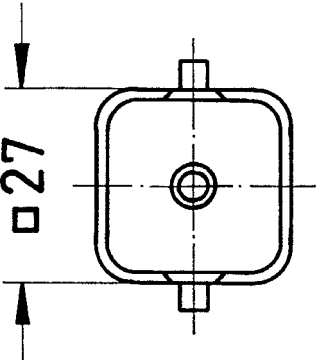
Identification	Cable entry	Part number	Drawing Dimensions in mm
Han A® , Hoods, top entry 	1xM20	19 20 003 0420	
Han A® , Hoods, top entry, black	1xM20	19 20 003 0427	
Han A® , Hoods, side entry 	1xM20	19 20 003 0620	
Han A® , Hoods, side entry, black	1xM20	19 20 003 0627	
Han A® , Hood with integrated cable gland, top entry 		19 20 003 0410	
Han A® , Hood with integrated cable gland, top entry, black		19 20 003 0418	



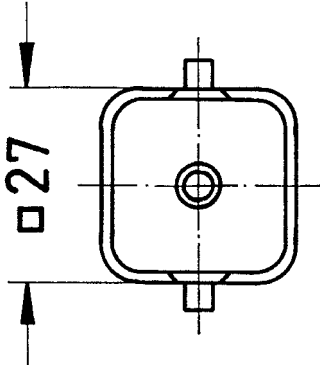
Identification	Cable entry	Part number	Drawing Dimensions in mm
Han A®, Protection cover for hoods, for mounted female insert or for mounted Han-Brid® insert, plastic, with securing flex, with sealing		09 20 003 5441	
Han A®, Protection cover for hoods, for mounted male insert or for mounted Han-Brid® insert, plastic, with securing flex		09 20 003 5442	
Han A®, Bulkhead mounted housings, straight		09 20 003 0320	<p>Panel cut out 22 x 22 mm</p>
Han A®, Bulkhead mounted housings, angled		09 20 003 0820	<p>Panel cut out 22 x 22 mm</p>
Han A®, Bulkhead mounted housings, straight, black		09 20 003 0327	
Han A®, Bulkhead mounted housings, angled, black		09 20 003 0827	

Hoods
Housings

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han A® , Surface mounted housings, top entry 	1xM20	19 20 003 0220	 <p>Panel cut out 22 x 22 mm</p>
Han A® , Surface mounted housings, top entry, black 	1xM20	19 20 003 0227	
Han A® , Cable to cable housings, top entry 	1xM20	19 20 003 0720	
Han A® , Cable to cable housings, top entry, black 	1xM20	19 20 003 0727	
Han A® , Protection cover for cable to cable hous- ings, for mounted female insert, plastic, with sealing, with securing flex 		09 20 003 5447	
Han A® , Protection cover for cable to cable hous- ings, for mounted male insert, plastic, with securing flex 		09 20 003 5448	



Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han A®, Protection cover for housings, for mounted female insert, plastic, with sealing, with securing flex</p> 		09 20 003 5445	
<p>Han A®, Protection cover for housings, for mounted male insert, plastic, with securing flex</p> 		09 20 003 5446	
<p>Han A®, Protection cover for housings, for mounted female insert, plastic, with sealing, with securing flex, black</p> 		09 20 003 5449	
<p>Han A®, Protection cover for housings, for mounted male insert, plastic, with securing flex, black</p> 		09 20 003 5450	
<p>Han A®, Protection cover for housings, plastic</p> 		09 20 003 5407	

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han A®, Protection cover for housings, for mounted female insert or for mounted Han-Brid® insert, plastic, with sealing</p> 		09 20 003 5408	
<p>Han A®, Protection cover, for mounted female insert or for mounted Han-Brid® insert, plastic, with sealing, black</p> 		09 20 003 5409	

Features

- Metal hoods/housings for industrial applications

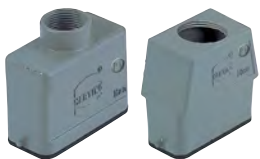
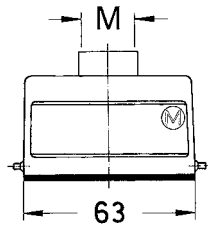
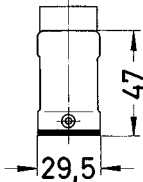

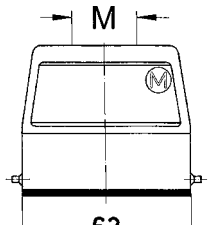
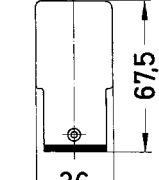
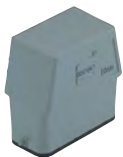
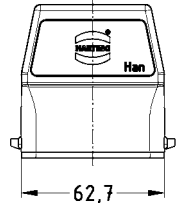
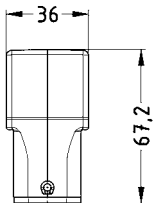
Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (locking lever) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	aluminium
Colour (hoods/housings)	RAL 7037 (grey)
Material (locking lever)	polycarbonate + stainless steel
Colour (locking lever)	RAL 7037 (grey)
Material (seal)	NBR


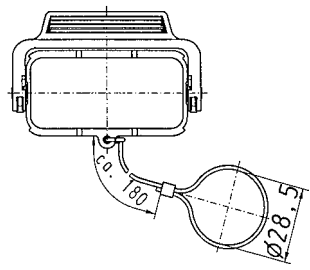

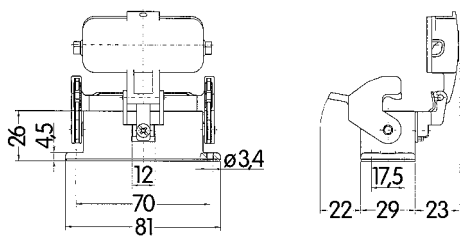

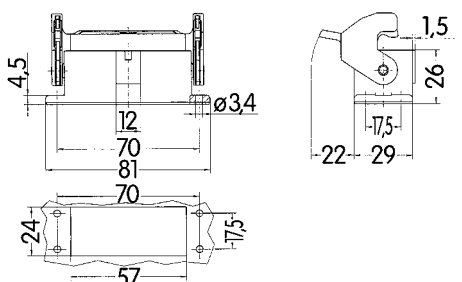

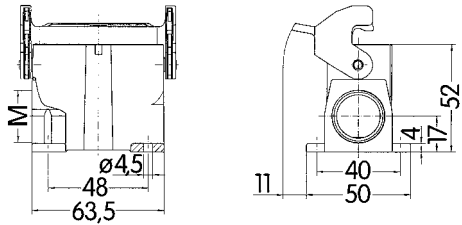

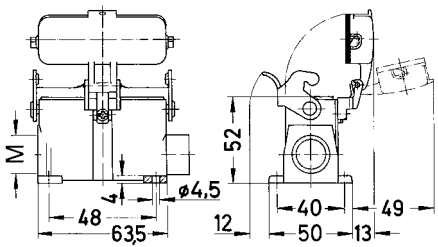
Specifications and approvals




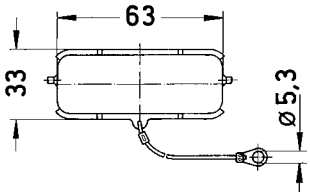
Metal hoods/housings for industrial applications
single locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han A® , Hoods, top entry 	1xM20 1xM25	19 20 010 1440	19 20 010 0446		
Han A® , Hoods, side entry 	1xM20 1xM25	19 20 010 1540	19 20 010 0546		
Han A® , Hoods, without cable entry 			09 20 010 0801		

Hoods
Housings


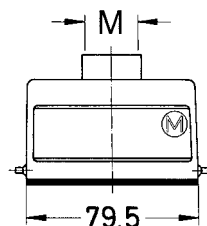
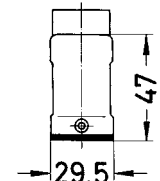
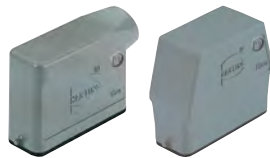
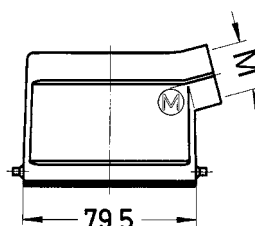
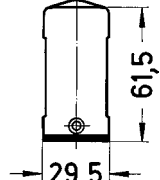

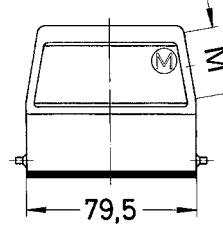
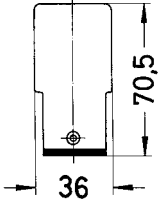
Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han A®, Protection cover for hoods, metal, Han-Easy Lock®, with securing flex 		09 20 010 5423	09 20 010 5423	
Han A®, Bulkhead mounted housings, Han-Easy Lock®, with thermo-plastic cover 		09 20 010 0321		
Han A®, Bulkhead mounted housings, Han-Easy Lock® 		09 20 010 0301		 <p>Panel cut out</p>
Han A®, Surface mounted housings, side entry, Han-Easy Lock® 	1xM25 2xM20	19 20 010 0251 19 20 010 0290		
Han A®, Surface mounted housings, side entry, Han-Easy Lock®, with thermo-plastic cover 	2xM20		19 20 010 0295	

Hoods
Housings


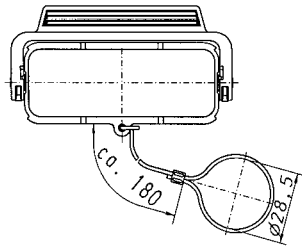

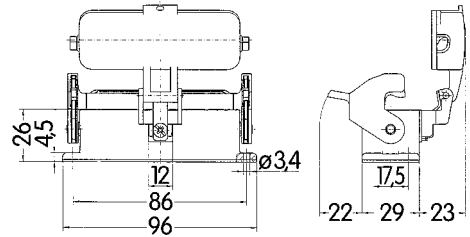

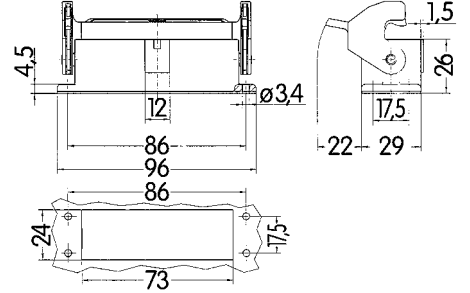

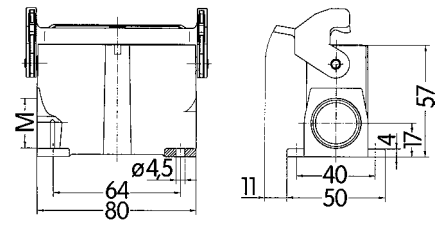
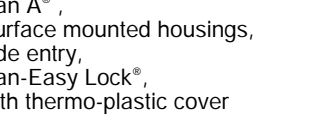
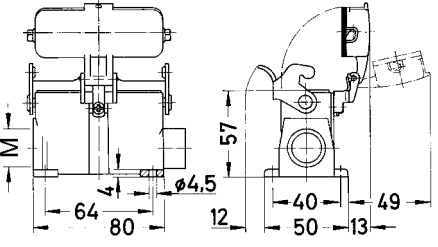
Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han A®, Cover for housings, metal, with securing flex 		09 20 010 5425	09 20 010 5425	




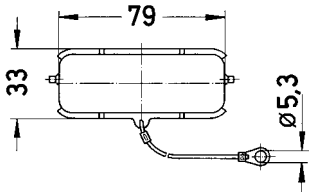
Metal hoods/housings for industrial applications
single locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han A®, Hoods, top entry 	1xM20 1xM25	19 20 016 1440	19 20 016 0446		
Han A®, Hoods, side entry 	1xM20 1xM25	19 20 016 1540	19 20 016 0546		
Han A®, Hoods, without cable entry 			09 20 016 0801		

Hoods
Housings


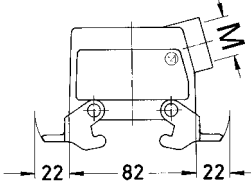
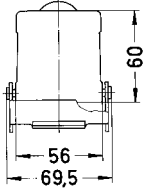

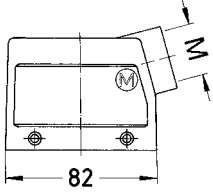
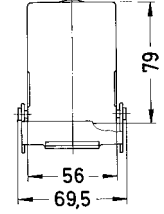

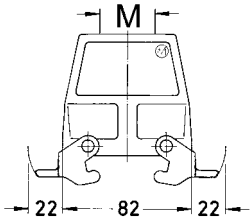
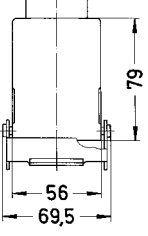
Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han A®, Protection cover for hoods, metal, Han-Easy Lock®, with securing flex 		09 20 016 5423	09 20 016 5423	
Han A®, Bulkhead mounted housings, Han-Easy Lock®, with thermo-plastic cover 		09 20 016 0321		
Han A®, Bulkhead mounted housings, Han-Easy Lock® 		09 20 016 0301		 Panel cut out
Han A®, Surface mounted housings, side entry, Han-Easy Lock® 	1xM25 2xM20 2xM25	19 20 016 0251 19 20 016 0290 19 20 016 0291		
Han A®, Surface mounted housings, side entry, Han-Easy Lock®, with thermo-plastic cover 	2xM20	19 20 016 0295		




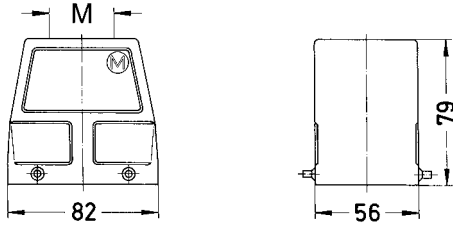

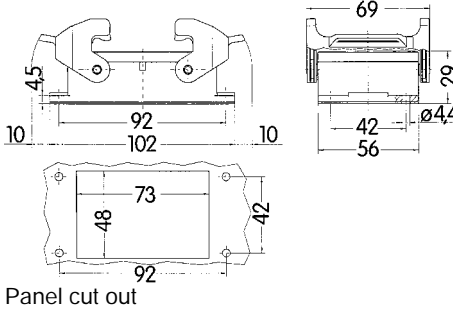

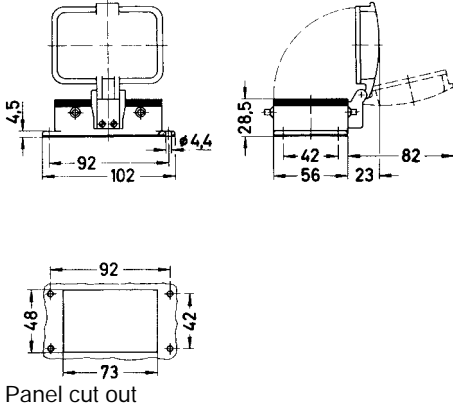

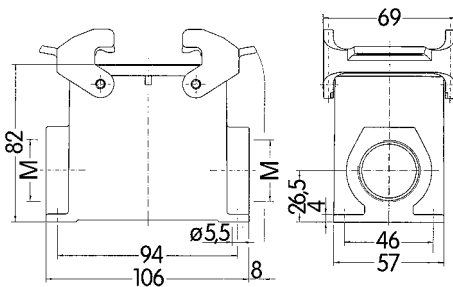
Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han A®, Cover for housings, metal, with securing flex 		09 20 016 5425	09 20 016 5425	

Hoods
Housings


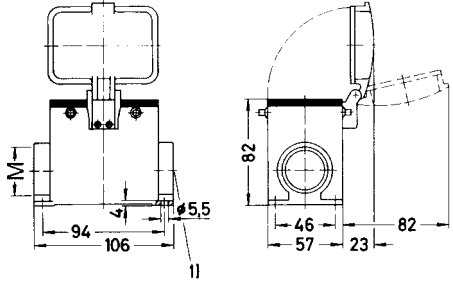



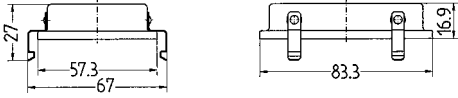
Metal hoods/housings for industrial applications
double locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han A® , Hoods, side entry, Han-Easy Lock® 	1xM25 1xM32	19 20 032 1531	19 20 032 0537		
Han A® , Hoods, side entry 	1xM25 1xM32	19 20 032 1521	19 20 032 0527		
Han A® , Hoods, top entry, Han-Easy Lock® 	1xM32		19 20 032 0437		

Hoods
Housings

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han A®, Hoods, top entry 	1xM25 1xM32		19 20 032 0426 19 20 032 0427	
Han A®, Bulkhead mounted housings, Han-Easy Lock® 		09 20 032 0301		 <p>Panel cut out</p>
Han A®, Bulkhead mounted housings, with thermo-plastic cover 		09 20 032 0302		 <p>Panel cut out</p>
Han A®, Surface mounted housings, side entry, Han-Easy Lock® 	1xM25 1xM32 2xM32		19 20 032 0231 19 20 032 0232 19 20 032 0272	

Hoods
Housings

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han A®, Surface mounted housings, side entry, with thermo-plastic cover 	1xM25		19 20 032 0226	 <p>1) Blind way for one cable entry</p>
Han A®, Protection cover for housings, metal 		09 20 032 5405	09 20 032 5405	
Han A®, Protection cover for hoods, metal 		09 20 032 5401	09 20 032 5401	

Features

- Metal hoods/housings for industrial applications
- Locking levers: Han-Easy Lock®
- **Field of application:** for excellent mechanical and electrical protection in demanding environments, for example, in the automobile and mechanical engineering industries also for process and regulation control applications
- **Distinguishing feature:** hoods/housings colour-coded grey (RAL 7037)


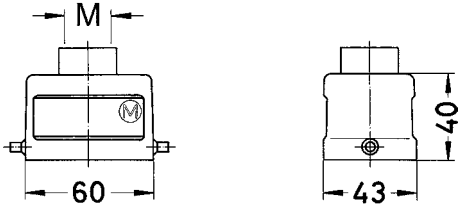

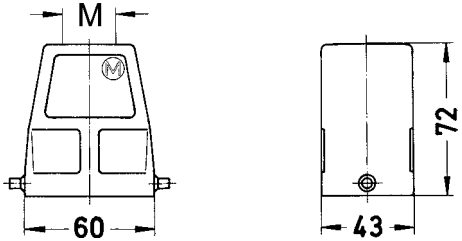

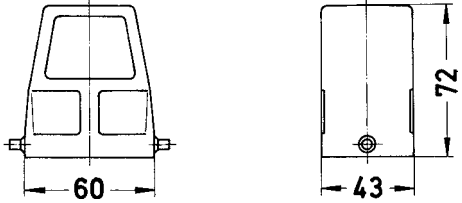
Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (locking lever) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP65, IP65 / IP67
Material (hoods/housings)	aluminium, polycarbonate
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 7037 (grey)
Material (locking lever)	polycarbonate + stainless steel, stainless steel
Colour (locking lever)	RAL 7037 (grey)
Material (seal)	NBR


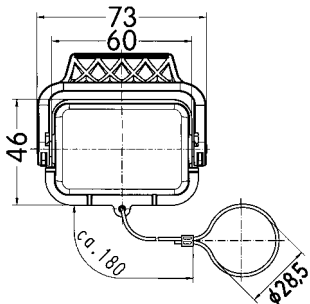

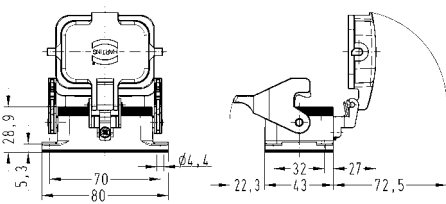

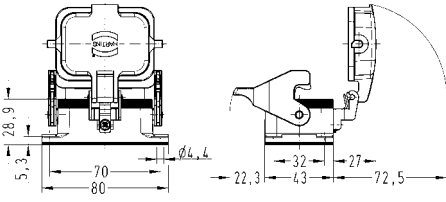

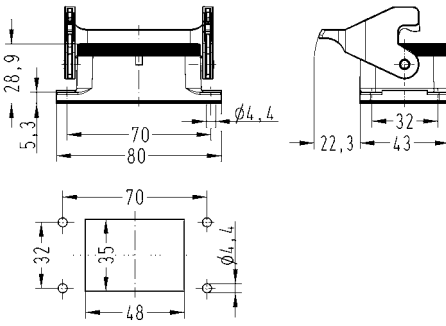
Specifications and approvals




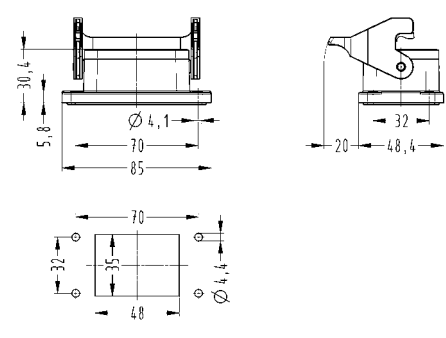

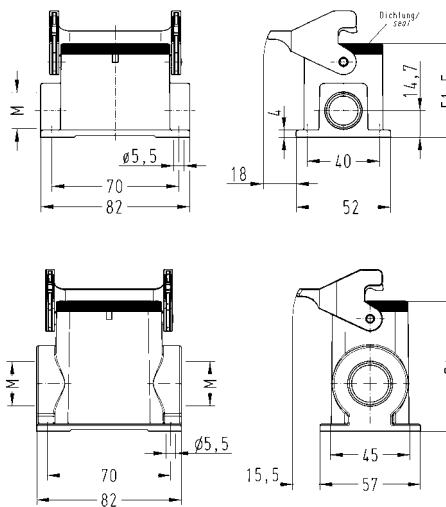

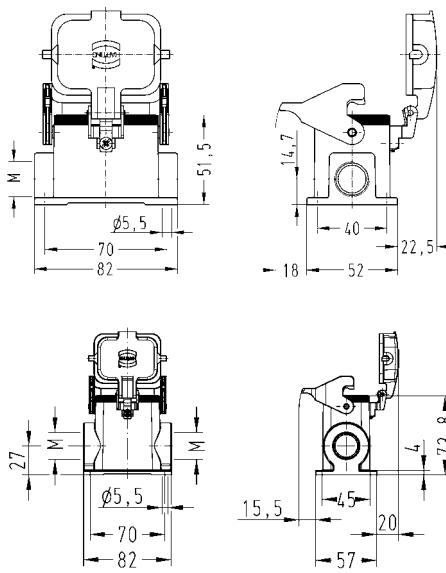
single locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han® B, Hoods, top entry 	1xM20 1xM25 1xM32	19 30 006 1440	19 30 006 0446 19 30 006 0447		
Han® B, Hoods, side entry 	1xM20 1xM25 1xM32	19 30 006 1540 19 30 006 1541	19 30 006 0546 19 30 006 0547		
Han® B, Hoods, without cable entry 			09 30 006 0801		


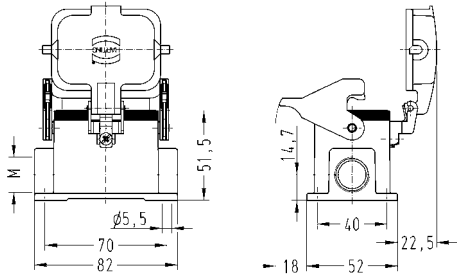
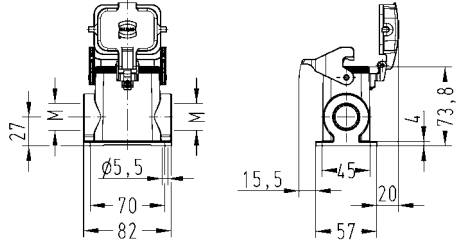

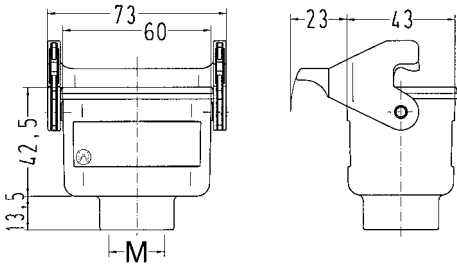

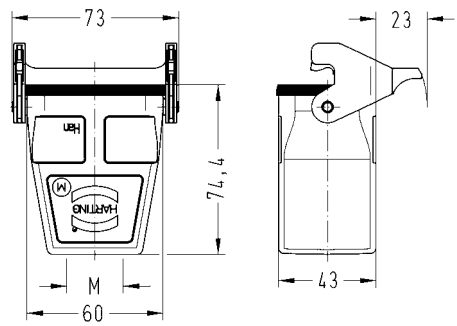

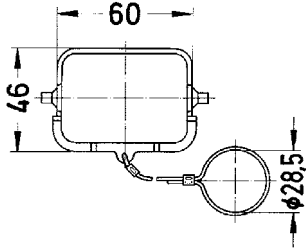
Hoods
Housings

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Protection cover for hoods, metal, Han-Easy Lock®, with securing flex 		09 30 006 5423	09 30 006 5423	
Han® B, Bulkhead mounted housings, Han-Easy Lock®, with thermo-plastic cover 		09 30 006 0302		 <p>Panel cut out</p>
Han® B, Bulkhead mounted housings, Han-Easy Lock®, with metal cover 		09 30 006 0318		 <p>Panel cut out</p>
Han® B, Bulkhead mounted housings, Han-Easy Lock® 		09 30 006 0301		 <p>Panel cut out</p>


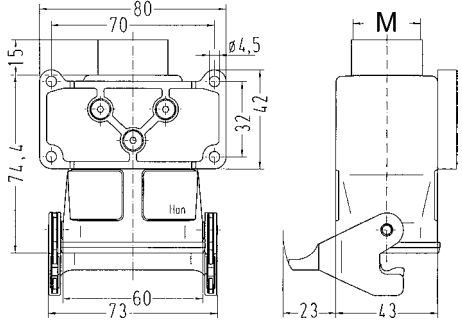

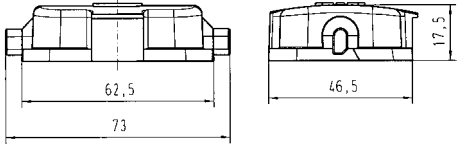

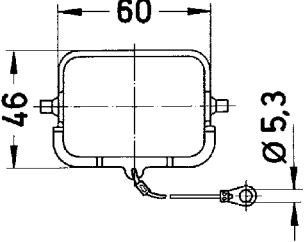

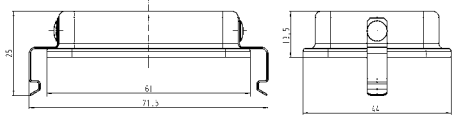
Hoods
Housings

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Bulkhead mounted housings, Han-Easy Lock®, IP67 		09 30 006 1301		
Han® B, Surface mounted housings, side entry, Han-Easy Lock® 	1xM20 2xM20 2xM25 2xM32	19 30 006 1250 19 30 006 1290	19 30 006 0291 19 30 006 0292	
Han® B, Surface mounted housings, side entry, Han-Easy Lock®, with thermo-plastic cover 	1xM20 2xM20 2xM25 2xM32	19 30 006 1255 19 30 006 1295	19 30 006 0296 19 30 006 0297	

Hoods
Housings


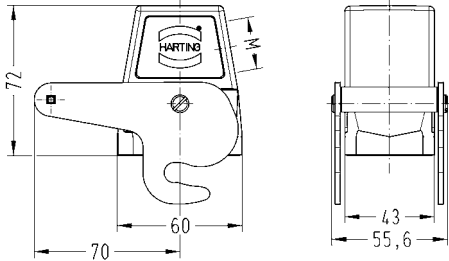

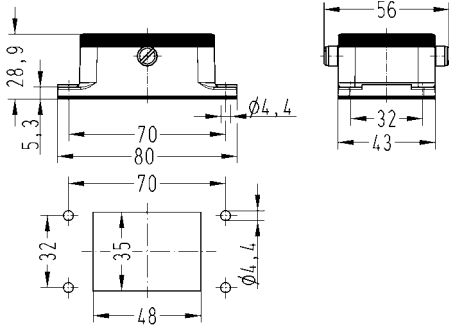
Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Surface mounted housings, side entry, Han-Easy Lock®, with metal cover 	1xM20 2xM20 2xM25	19 30 006 2255 19 30 006 2295	19 30 006 7296	 
Han® B, Cable to cable housings, top entry 	1xM20	19 30 006 1750		
Han® B, Cable to cable housings, top entry, Han-Easy Lock® 	1xM25 1xM32		19 30 006 0756 19 30 006 0757	
Han® B, Protection cover for cable to cable housings, metal, with securing flex 		09 30 006 5427	09 30 006 5427	

Hoods
Housings

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Flange housings, top entry, Han-Easy Lock® 	1xM25	19 30 006 0716		
Han® B, Protection cover for housings, plastic 		09 30 006 5404	09 30 006 5404	
Han® B, Protection cover for housings, metal, with securing flex 		09 30 006 5425	09 30 006 5425	
Han® B, Protection cover for hoods, metal, with grounding pins 		09 30 006 5401	09 30 006 5401	


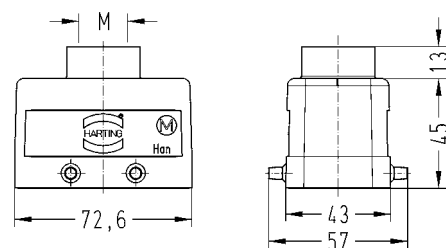
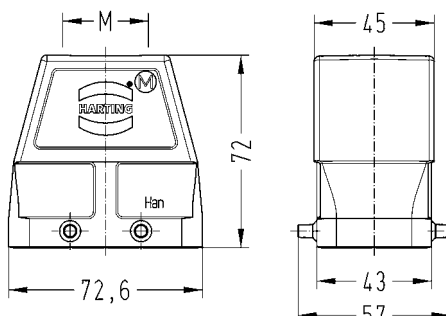

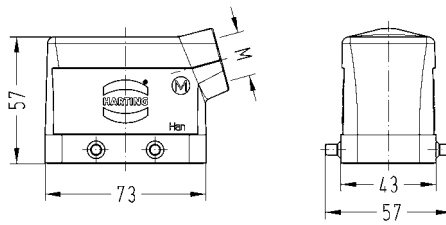
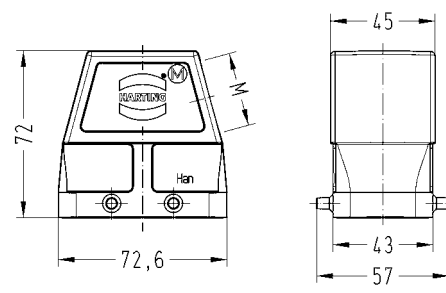



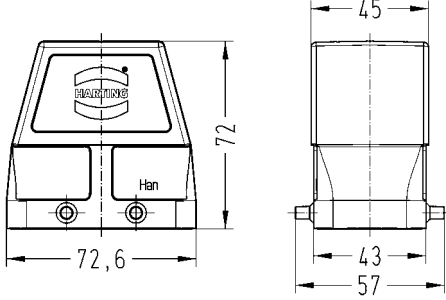

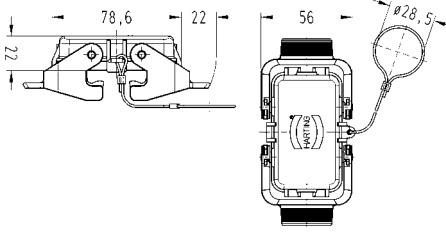

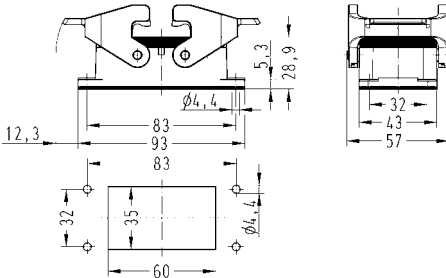

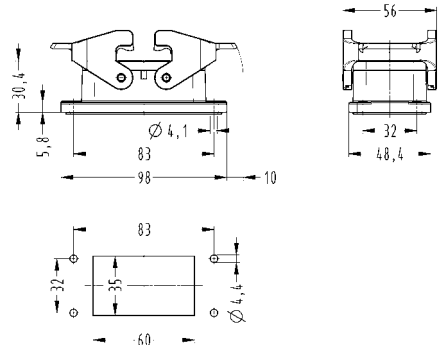
central locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Hoods, side entry 	1xM25 1xM32		19 30 006 0586 19 30 006 0587	
Han® B, Bulkhead mounted housings 		09 30 006 0381		 <p>Panel cut out</p>


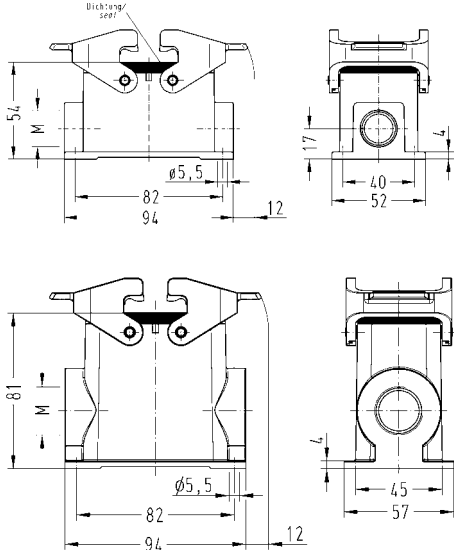

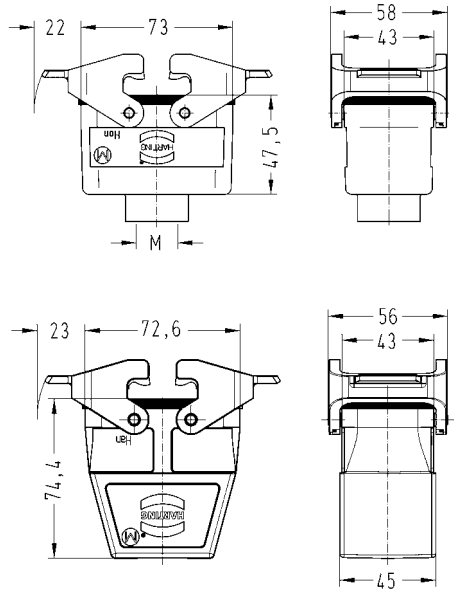

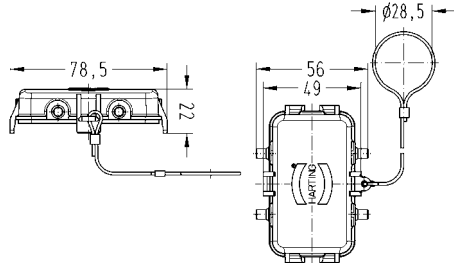

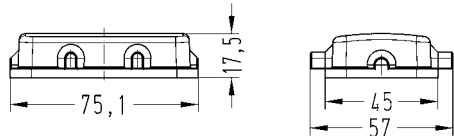
Hoods
Housings

double locking lever


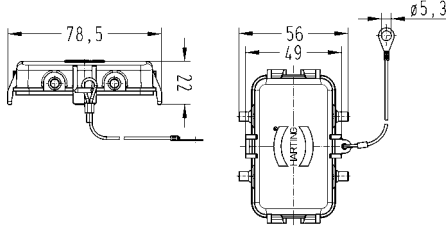

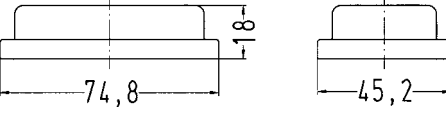

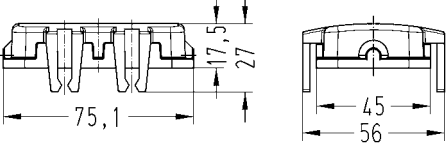
Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han® B, Hoods, top entry 	1xM20 1xM25 1xM32 1xM40 2xM20	19 30 010 1420 19 30 010 1421	19 30 010 0427 19 30 010 0428 19 30 010 0465	 	
Han® B, Hoods, side entry 	1xM20 1xM25 1xM32	19 30 010 1520 19 30 010 1521	19 30 010 0527	 	

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Hoods, without cable entry 			09 30 010 0801	
Han® B, Protection cover for hoods, metal, Han-Easy Lock®, with securing flex 		09 30 010 5423	09 30 010 5423	
Han® B, Bulkhead mounted housings, Han-Easy Lock® 		09 30 010 0301		 <p>Panel cut out</p>
Han® B, Bulkhead mounted housings, Han-Easy Lock®, IP67 		09 30 010 1301		

Hoods
Housings


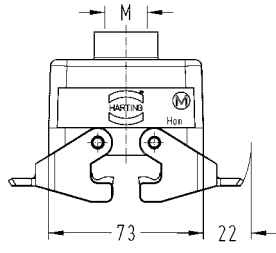
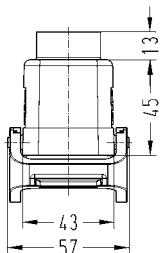

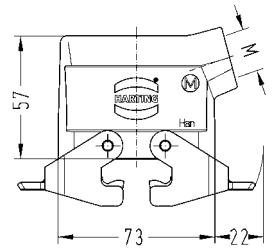
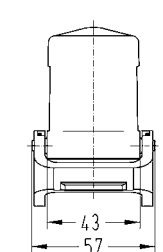
Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Surface mounted housings, side entry, Han-Easy Lock® 	1xM20 1xM25 2xM20 2xM25 2xM32	19 30 010 1230 19 30 010 1231 19 30 010 1270	19 30 010 0231 19 30 010 0271 19 30 010 0272	
Han® B, Cable to cable housings, top entry, Han-Easy Lock® 	1xM20 1xM25 1xM32	19 30 010 1730	19 30 010 0736 19 30 010 0737	
Han® B, Protection cover for cable to cable housings, metal, with securing flex 		09 30 010 5427	09 30 010 5427	
Han® B, Protection cover for housings, plastic 		09 30 010 5407	09 30 010 5407	

Hoods
Housings


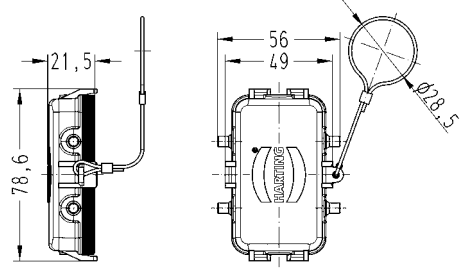

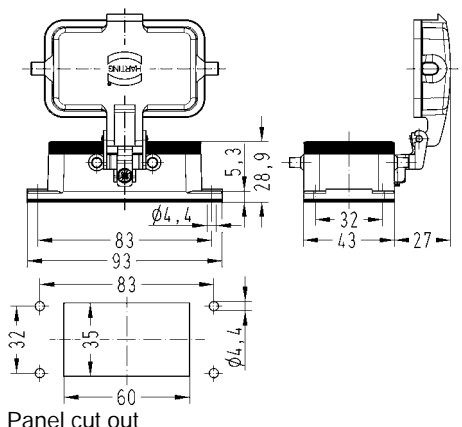

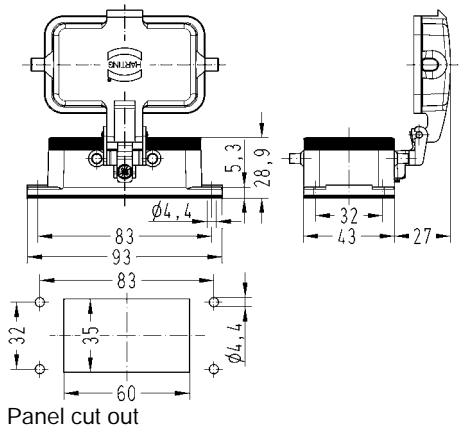
Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Protection cover for housings, metal, with securing flex 		09 30 010 5425	09 30 010 5425	
Han® B, Dust protection cover, plastic 		09 30 010 5406	09 30 010 5406	
Han® B, Protection cover for hoods, plastic, with grounding pins 		09 30 010 5401	09 30 010 5401	

Hoods
Housings


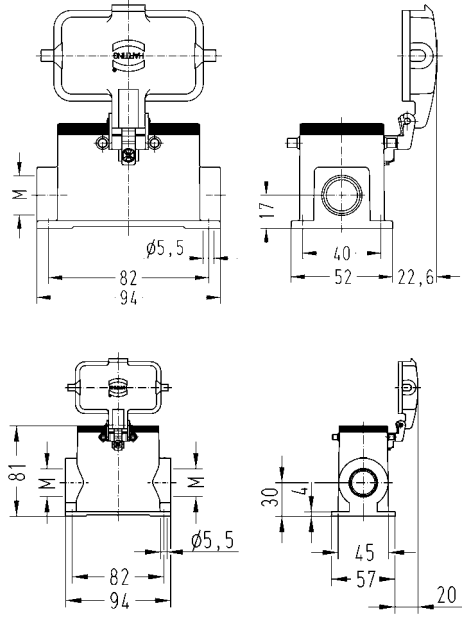
double locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han® B, Hoods, top entry, Han-Easy Lock® 	1xM20 1xM25	19 30 010 1430	19 30 010 0436		
Han® B, Hoods, side entry, Han-Easy Lock® 	1xM20 1xM32	19 30 010 1530	19 30 010 0537		

Hoods
Housings


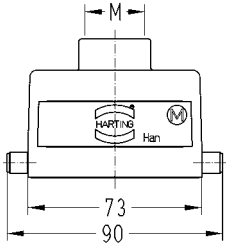
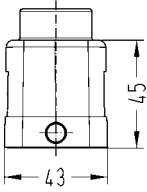

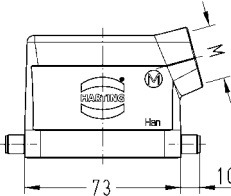
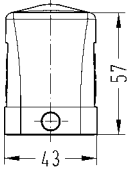
Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Protection cover for hoods, metal, with securing flex 		09 30 010 5457	09 30 010 5457	
Han® B, Bulkhead mounted housings, with thermo-plastic cover 		09 30 010 0302		 <p>Panel cut out</p>
Han® B, Bulkhead mounted housings, with metal cover 		09 30 010 0317		 <p>Panel cut out</p>

Hoods
Housings


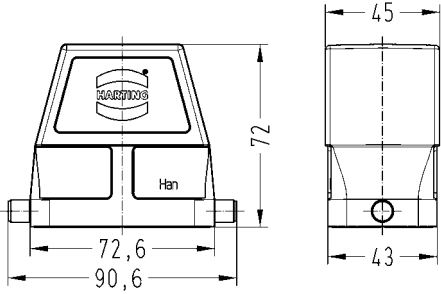

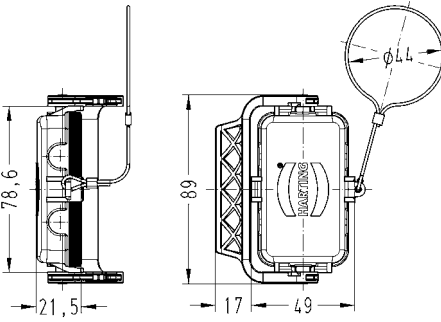

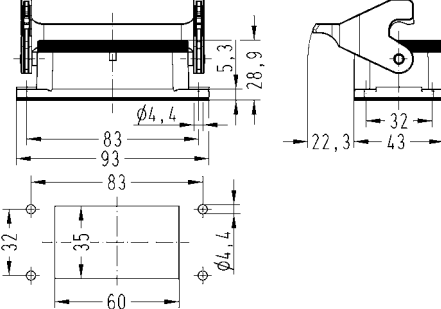

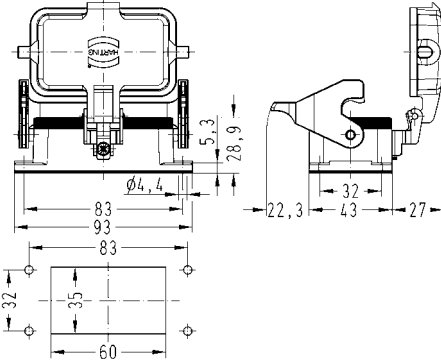
Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Surface mounted housings, side entry, with thermo-plastic cover 	1xM20 2xM20 2xM25	19 30 010 1225 19 30 010 1265	19 30 010 0266	



single locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han® B, Hoods, top entry 	1xM20 1xM25 1xM32	19 30 010 1440	19 30 010 0447		
		19 30 010 1441			
Han® B, Hoods, side entry 	1xM20 1xM25 1xM32	19 30 010 1540	19 30 010 0547		
		19 30 010 1541			


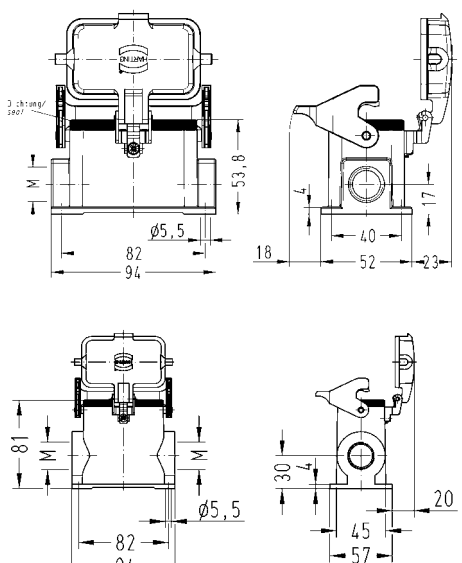

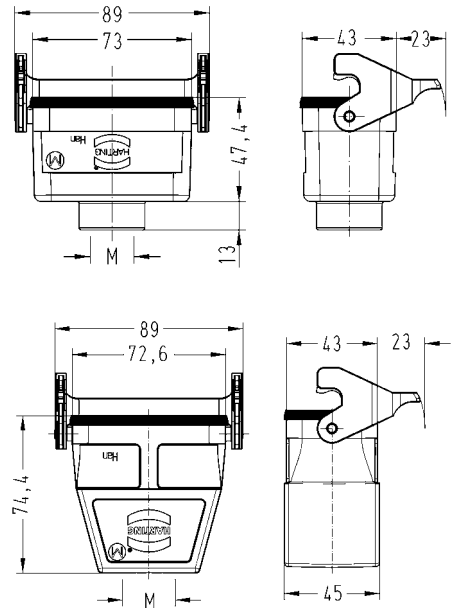

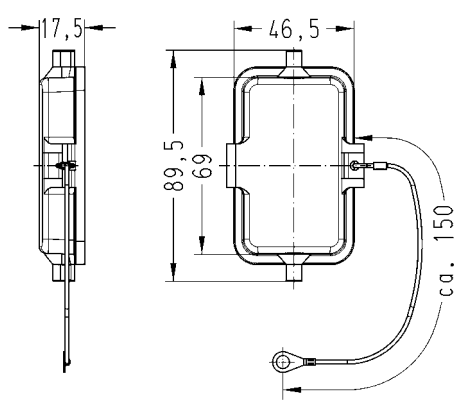
Hoods
Housings

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Hoods, without cable entry 			09 30 010 0803	
Han® B, Protection cover for hoods, metal, Han-Easy Lock®, with securing flex 		09 30 010 5432	09 30 010 5432	
Han® B, Bulkhead mounted housings, Han-Easy Lock® 		09 30 010 0305		 <p>Panel cut out</p>
Han® B, Bulkhead mounted housings, Han-Easy Lock®, with thermo-plastic cover 		09 30 010 0303		 <p>Panel cut out</p>

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Bulkhead mounted housings, Han-Easy Lock®, with metal cover		09 30 010 0318		<p>Panel cut out</p>
Han® B, Surface mounted housings, side entry, Han-Easy Lock®	1xM20 2xM20 2xM25 2xM32	19 30 010 1250 19 30 010 1290	19 30 010 0291 19 30 010 0292	
Han® B, Surface mounted housings, side entry, Han-Easy Lock®, with thermo-plastic cover	1xM20 2xM20 2xM25 2xM32	19 30 010 1255 19 30 010 1295	19 30 010 0296 19 30 010 0297	




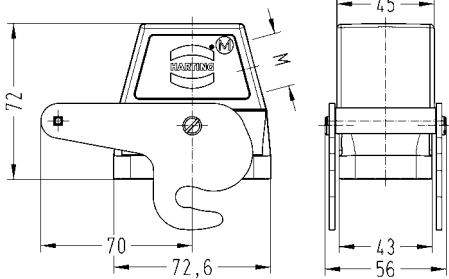

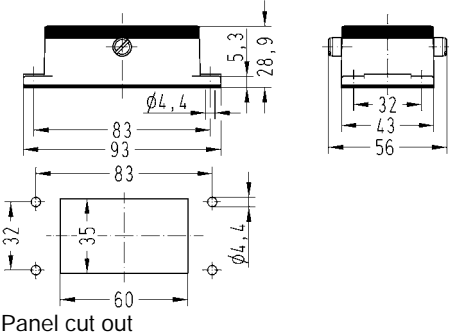
Hoods
Housings

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Surface mounted housings, side entry, Han-Easy Lock®, with metal cover 	2xM20 2xM25	19 30 010 2295	19 30 010 7296	
Han® B, Cable to cable housings, top entry, Han-Easy Lock® 	1xM20 1xM25 1xM32	19 30 010 1750	19 30 010 0756 19 30 010 0757	
Han® B, Protection cover for housings, plastic, with securing flex 		09 30 010 5412	09 30 010 5412	

Hoods
Housings


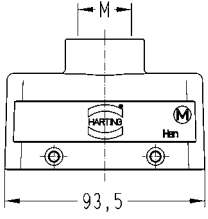
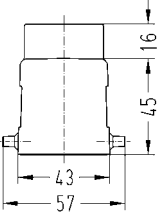

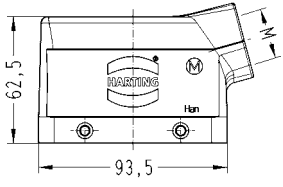
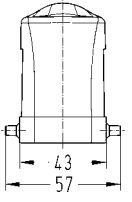

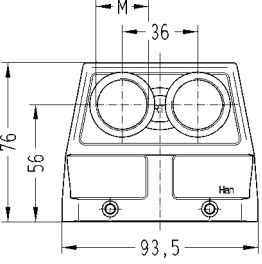
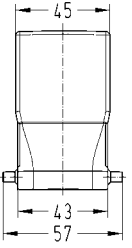


central locking lever


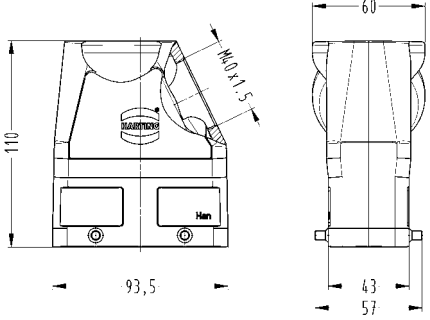

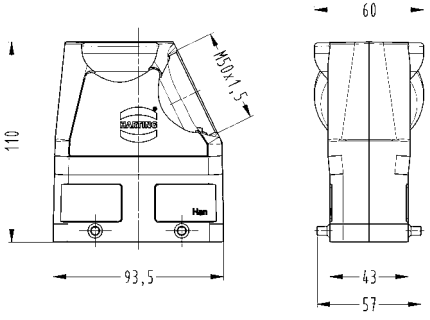

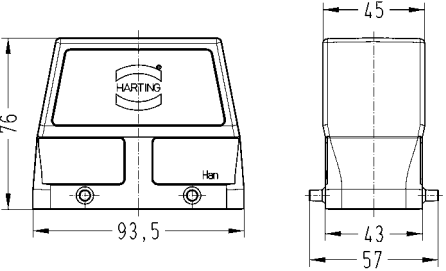
Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Hoods, side entry 	1xM25		19 30 010 0586	
Han® B, Bulkhead mounted housings 		09 30 010 0381		 <p>Panel cut out</p>

Hoods
Housings


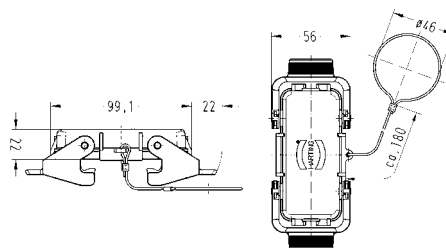

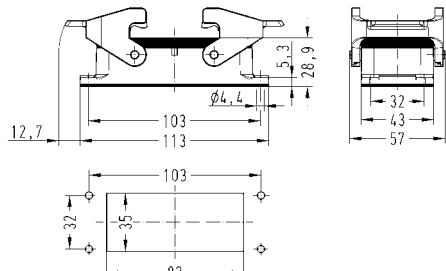

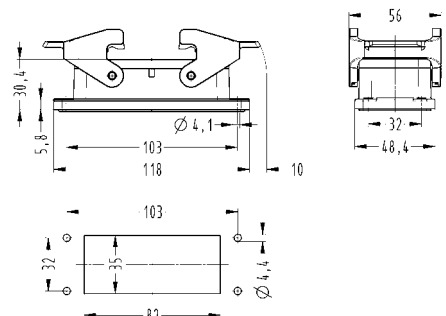

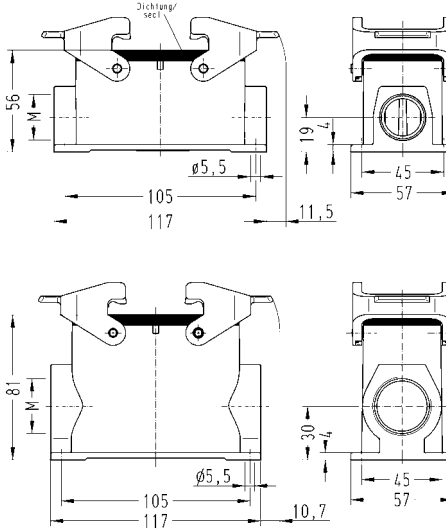
double locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han® B, Hoods, top entry 	1xM25 1xM32 1xM40 2xM25	19 30 016 1421 19 30 016 1422	19 30 016 0427 19 30 016 0428 19 30 016 0466		
Han® B, Hoods, side entry 	1xM25 1xM32 1xM40	19 30 016 1521 19 30 016 1522	19 30 016 0527 19 30 016 0528		
Han® B, Hoods, angled entry 	2xM25		19 30 016 0666		

Hoods
Housings


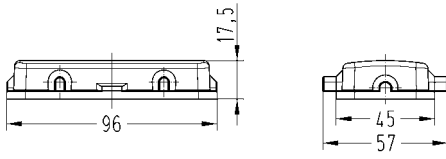

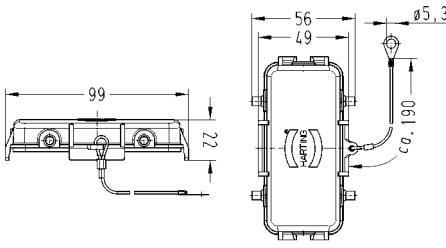

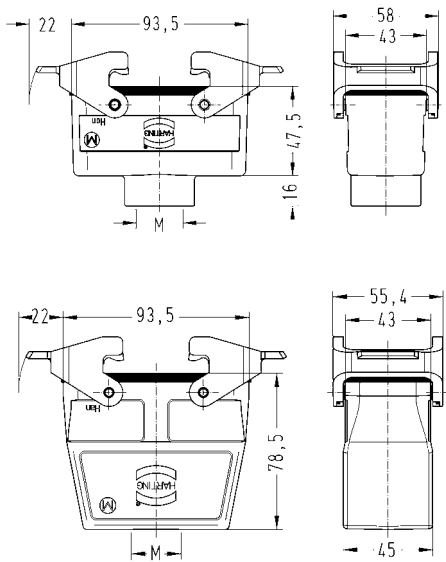

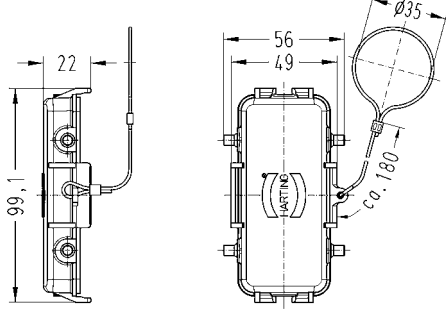

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Hoods, side entry, special type 	1xM40 1xM50		19 30 016 0523 19 30 016 0529	
Han® B, Hoods, flat cable entry 			09 30 016 4411	
Han® B, Hoods, without cable entry 			09 30 016 0801	

Hoods
Housings


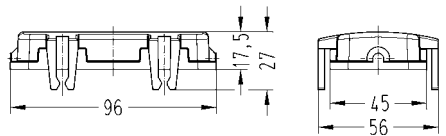
Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Protection cover for hoods, metal, Han-Easy Lock®, with securing flex 		09 30 016 5422	09 30 016 5422	
Han® B, Bulkhead mounted housings, Han-Easy Lock® 		09 30 016 0301		 <p>Panel cut out</p>
Han® B, Bulkhead mounted housings, Han-Easy Lock®, IP67 		09 30 016 1301		
Han® B, Surface mounted housings, side entry, Han-Easy Lock® 	1xM25 1xM32 2xM25 2xM32 2xM40	19 30 016 1231 19 30 016 1271	19 30 016 0232 19 30 016 0271 19 30 016 0272 19 30 016 0273	

Hoods
Housings


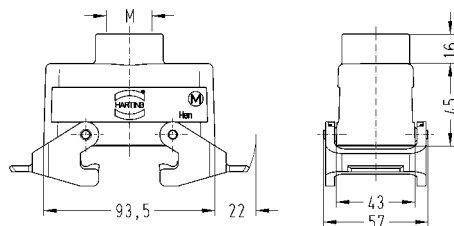
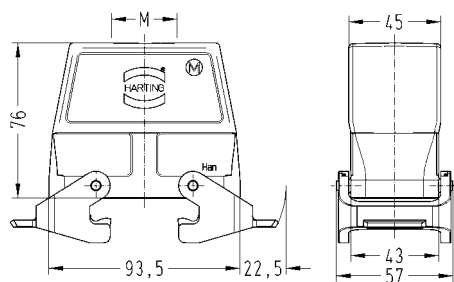

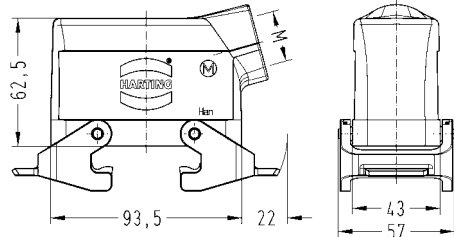
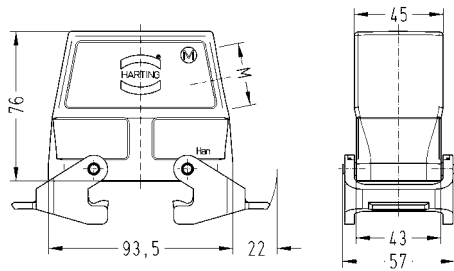


Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Cover for housings, plastic 		09 30 016 5405	09 30 016 5405	
Han® B, Cover for housings, metal, with securing flex 		09 30 016 5425	09 30 016 5425	
Han® B, Cable to cable housings, top entry, Han-Easy Lock® 	1xM25 1xM32	19 30 016 1731 19 30 016 1732	19 30 016 0736 19 30 016 0737	
Han® B, Protection cover for cable to cable housings, metal, Han-Easy Lock®, with securing flex 		09 30 016 5426	09 30 016 5426	
Han® B, Dust protection cover, plastic 		09 30 016 5406	09 30 016 5406	

Hoods
Housings

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Protection cover for hoods, plastic, with grounding pins 		09 30 016 5401	09 30 016 5401	


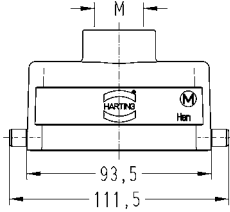
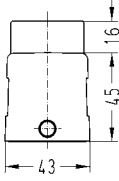

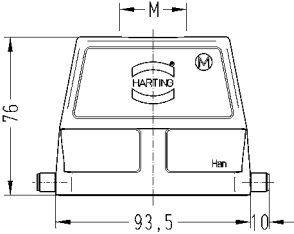
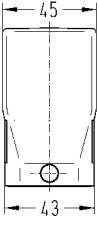

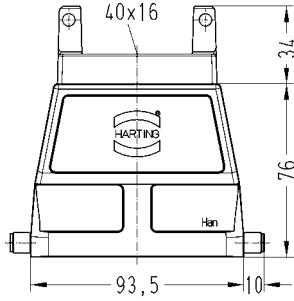
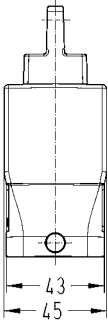
double locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han® B, Hoods, top entry, Han-Easy Lock® 	1xM25 1xM32 1xM40	19 30 016 1431 19 30 016 1432	19 30 016 0437 19 30 016 0438		
Han® B, Hoods, side entry, Han-Easy Lock® 	1xM25 1xM32 1xM40	19 30 016 1531	19 30 016 0537 19 30 016 0538		


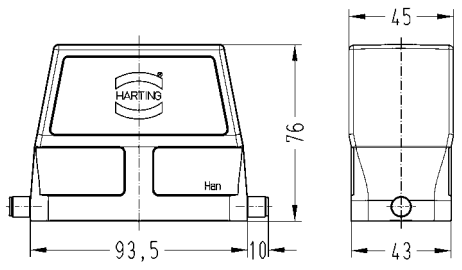

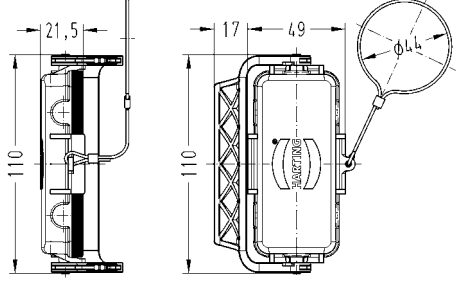

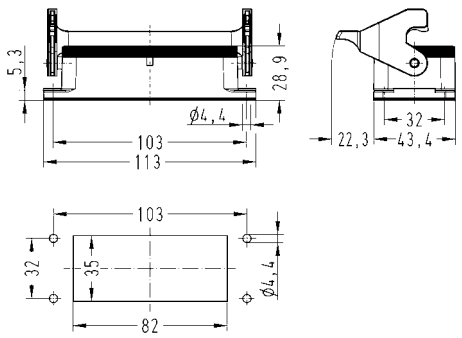

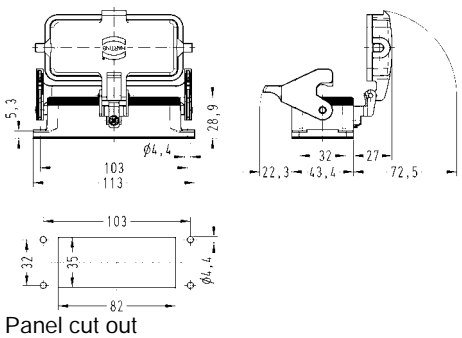
Hoods
Housings


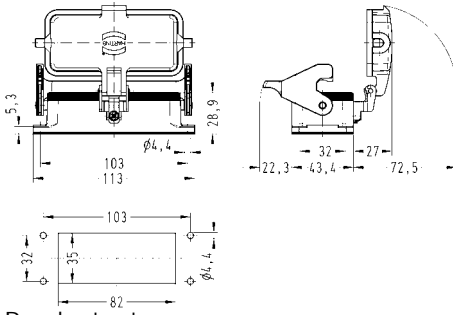

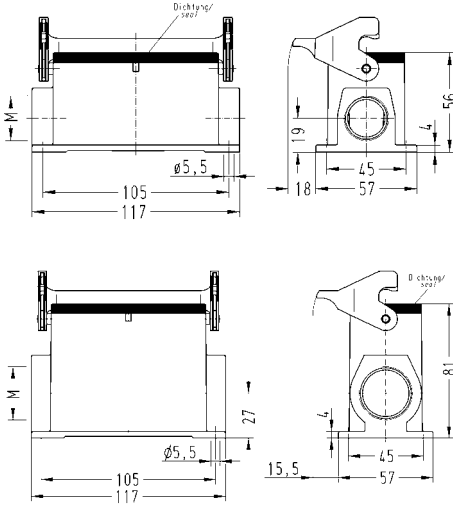

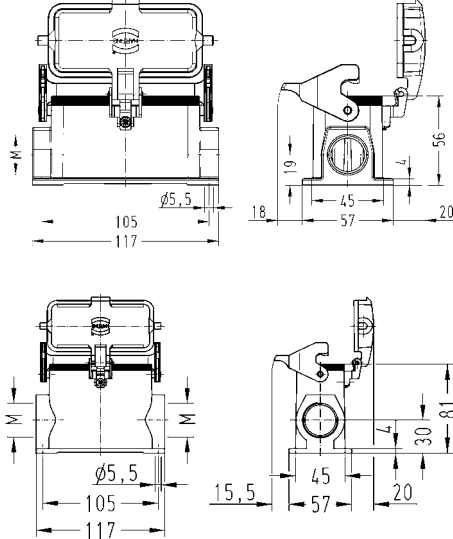


single locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han® B, Hoods, top entry 	1xM25 1xM32 1xM40	19 30 016 1441 19 30 016 1442	19 30 016 0447 19 30 016 0448		
Han® B, Hoods, side entry 	1xM25 1xM32 1xM40	19 30 016 1541 19 30 016 1542	19 30 016 0547 19 30 016 0548		
Han® B, Hoods, flat cable entry 			09 30 016 4441		

Hoods
Housings


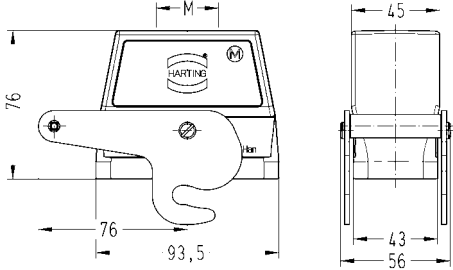

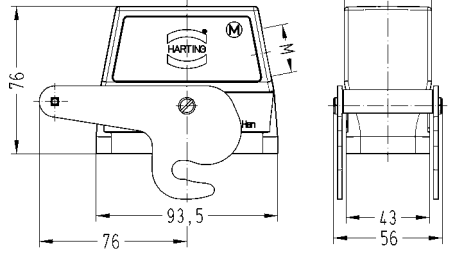

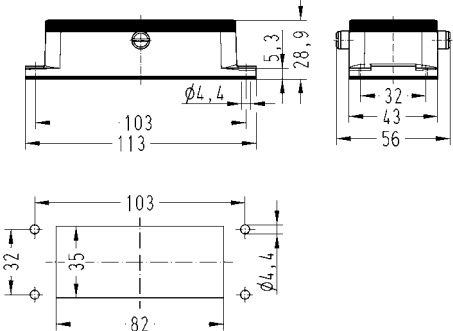

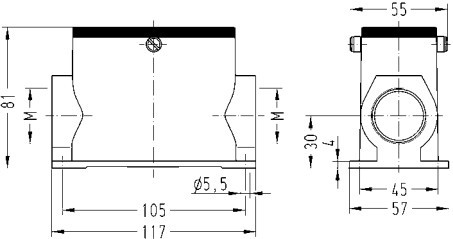
Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Hoods, without cable entry 			09 30 016 0803	
Han® B, Protection cover for hoods, metal, Han-Easy Lock® 		09 30 016 5432	09 30 016 5432	
Han® B, Bulkhead mounted housings, Han-Easy Lock® 		09 30 016 0307		 <p>Panel cut out</p>
Han® B, Bulkhead mounted housings, Han-Easy Lock®, with thermo-plastic cover 		09 30 016 0306		 <p>Panel cut out</p>

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Bulkhead mounted housings, Han-Easy Lock®, with metal cover 		09 30 016 0318		 <p>Panel cut out</p>
Han® B, Surface mounted housings, side entry, Han-Easy Lock® 	1xM25 1xM32 2xM25 2xM32	19 30 016 1251 19 30 016 1291	19 30 016 0252 19 30 016 0291 19 30 016 0292	
Han® B, Surface mounted housings, side entry, Han-Easy Lock®, with thermo-plastic cover 	1xM25 2xM25 2xM32	19 30 016 1256 19 30 016 1296	19 30 016 0297	

Hoods
Housings


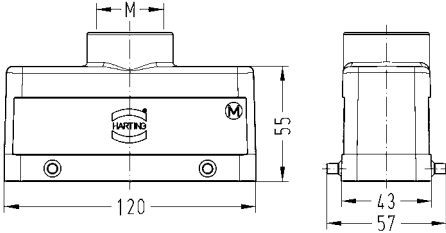

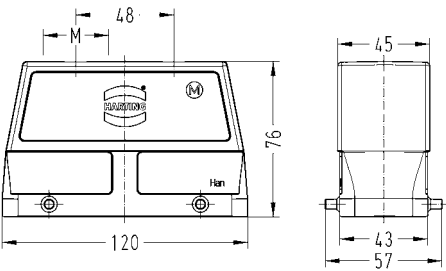

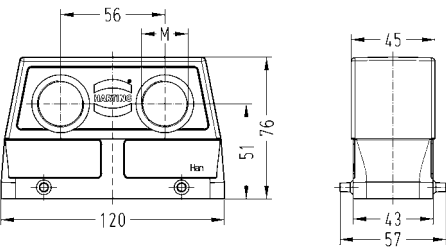


central locking lever


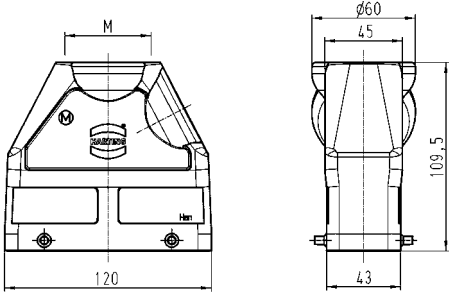

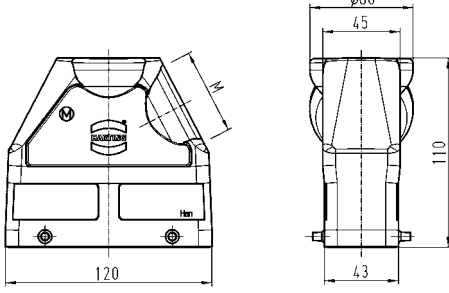

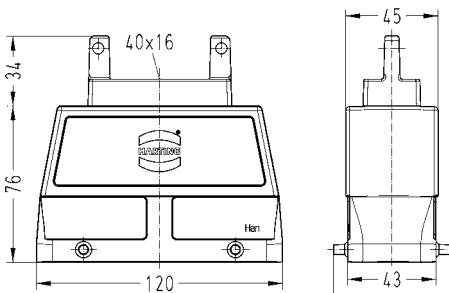

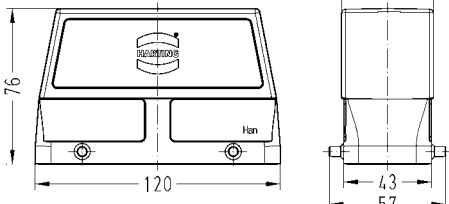

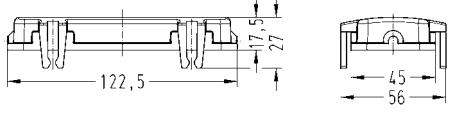
Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Hoods, top entry 	1xM32		19 30 016 0487	
Han® B, Hoods, side entry 	1xM25 1xM32		19 30 016 0586 19 30 016 0587	
Han® B, Bulkhead mounted housings 		09 30 016 0381		 <p>Panel cut out</p>
Han® B, Surface mounted housings, side entry 	2xM32		19 30 016 0282	

Hoods
Housings


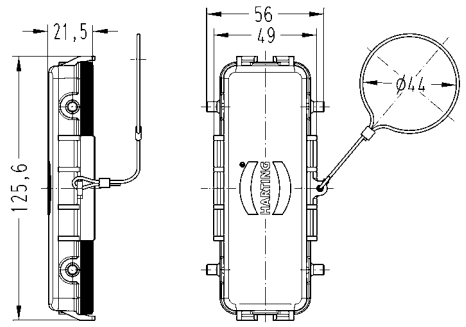

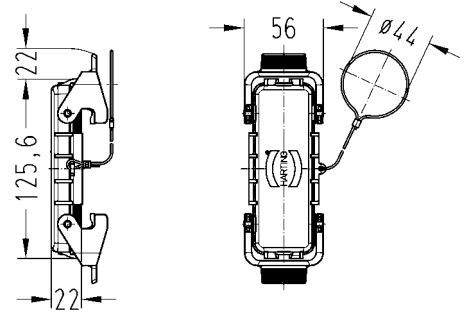

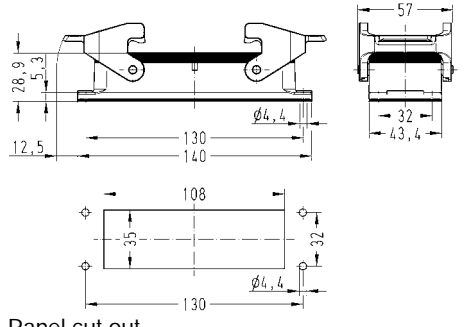

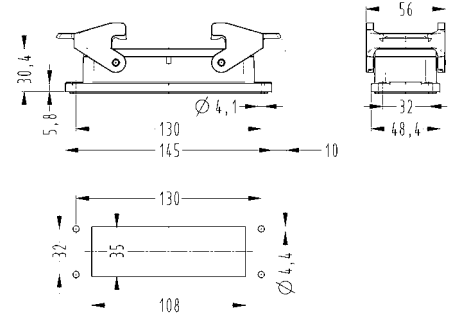
double locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han® B, Hoods, top entry 	1xM32 1xM40 2xM32 2xM40	19 30 024 1422	19 30 024 0427 19 30 024 0428 19 30 024 0467 19 30 024 0468		
Han® B, Hoods, side entry 	1xM25 1xM32 1xM40	19 30 024 1521 19 30 024 1522	19 30 024 0527 19 30 024 0528		
Han® B, Hoods, angled entry 	2xM25		19 30 024 0666		


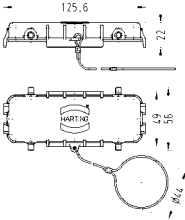

Hoods
Housings

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Hoods, top entry, special type 	1xM50		19 30 024 0429	
Han® B, Hoods, side entry, special type 	1xM40 1xM50		19 30 024 0523 19 30 024 0529	
Han® B, Hoods, flat cable entry 			09 30 024 4411	
Han® B, Hoods, without cable entry 			09 30 024 0801	
Han® B, Protection cover for hoods, plastic, with grounding pins 		09 30 024 5401	09 30 024 5401	


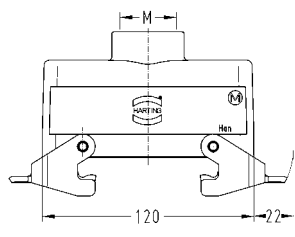
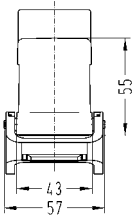

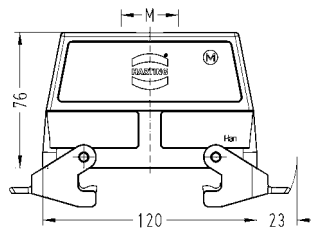
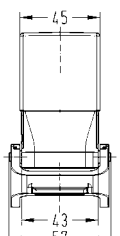
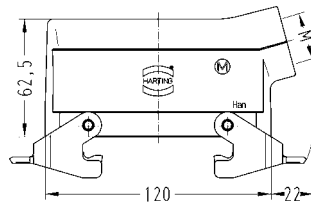
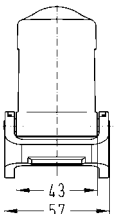
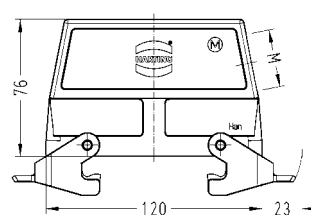
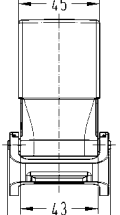
Hoods
Housings

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Protection cover for hoods, metal, with securing flex 		09 30 024 5442	09 30 024 5442	
Han® B, Protection cover for hoods, metal, Han-Easy Lock®, with securing flex 		09 30 024 5422	09 30 024 5422	
Han® B, Bulkhead mounted housings, Han-Easy Lock® 		09 30 024 0301		 <p>Panel cut out</p>
Han® B, Bulkhead mounted housings, Han-Easy Lock®, IP67 		09 30 024 1301		


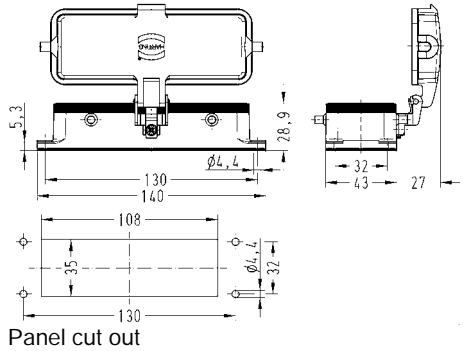

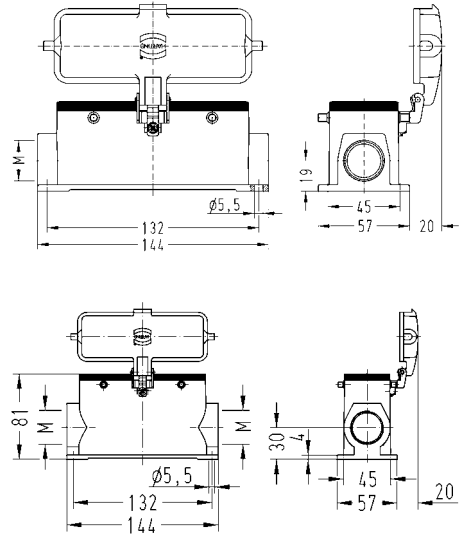


Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Protection cover for cable to cable housings, metal, with securing flex 		09 30 024 5426	09 30 024 5426	
Han® B, Dust protection cover, plastic 		09 30 024 5406	09 30 024 5406	


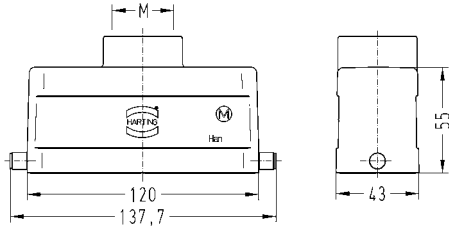
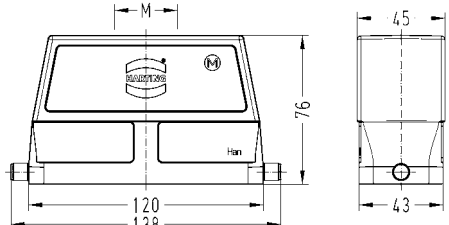

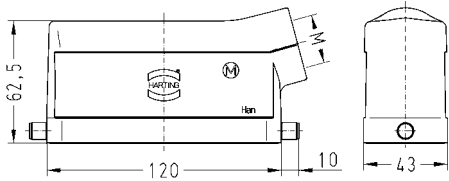
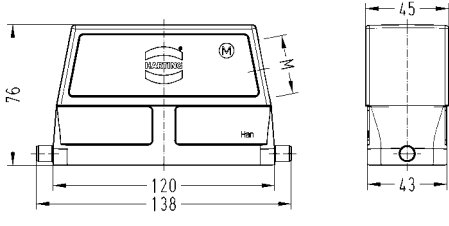

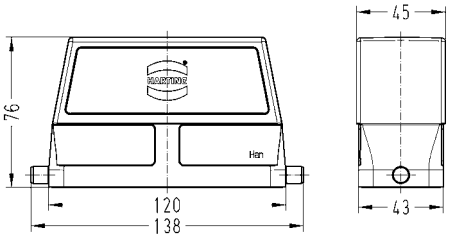
double locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han® B, Hoods, top entry, Han-Easy Lock® 	1xM32 1xM40	19 30 024 1432	19 30 024 0437 19 30 024 0438		
Han® B, Hoods, side entry, Han-Easy Lock® 	1xM25 1xM32 1xM40	19 30 024 1531	19 30 024 0537 19 30 024 0538		
					
					


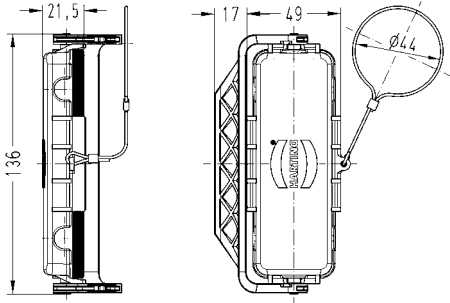

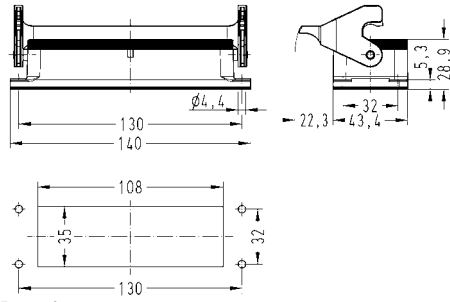

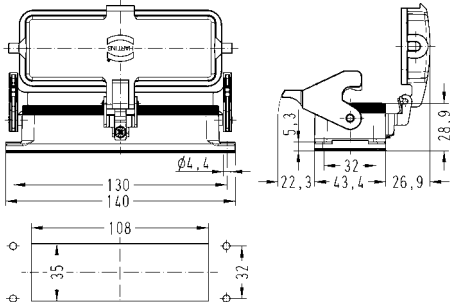

Hoods
Housings


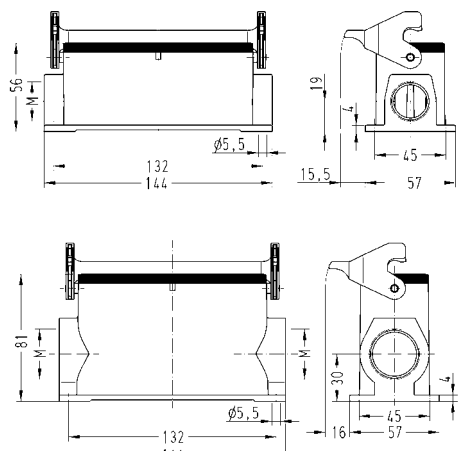

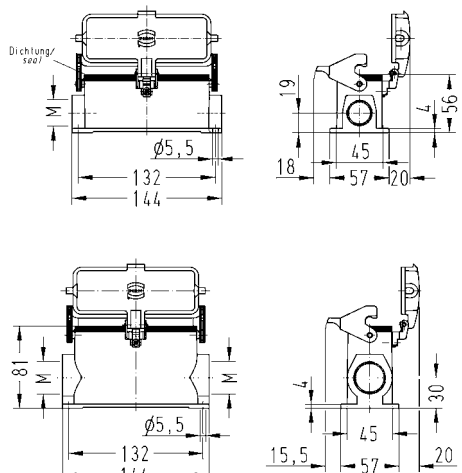

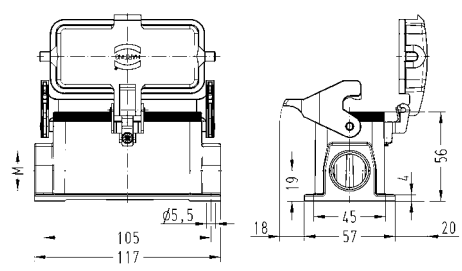

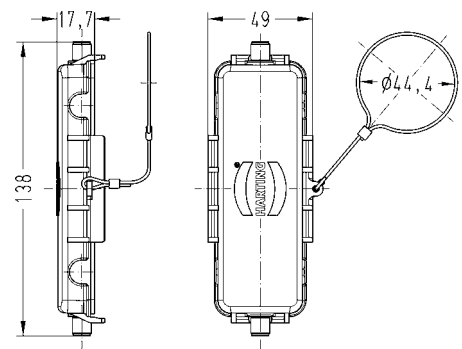
Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Bulkhead mounted housings, with thermo-plastic cover 		09 30 024 0302		 <p>Panel cut out</p>
Han® B, Surface mounted housings, side entry, with thermo-plastic cover 	1xM25 2xM25 2xM32	19 30 024 1226 19 30 024 1266	19 30 024 0267	

single locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Hoods, top entry 	1xM32 1xM40	19 30 024 1442	19 30 024 0447 19 30 024 0448	 
Han® B, Hoods, side entry 	1xM25 1xM32 1xM40	19 30 024 1541 19 30 024 1542	19 30 024 0547 19 30 024 0548	 
Han® B, Hoods, without cable entry 			09 30 024 0803	

Hoods
Housings

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Protection cover for hoods, metal, Han-Easy Lock®, with securing flex 		09 30 024 5432	09 30 024 5432	
Han® B, Bulkhead mounted housings, Han-Easy Lock® 		09 30 024 0307		 <p>Panel cut out</p>
Han® B, Bulkhead mounted housings, Han-Easy Lock®, with thermo-plastic cover 		09 30 024 0304		 <p>Panel cut out</p>
Han® B, Bulkhead mounted housings, Han-Easy Lock®, with metal cover 		09 30 024 0318		

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Surface mounted housings, side entry, Han-Easy Lock® 	1xM25 2xM25 2xM32	19 30 024 1251 19 30 024 1291	19 30 024 0292	
Han® B, Surface mounted housings, side entry, Han-Easy Lock®, with thermo-plastic cover 	1xM25 2xM25 2xM32	19 30 024 1256 19 30 024 1296	19 30 024 0297	
Han® B, Surface mounted housings, side entry, Han-Easy Lock®, with metal cover 	2xM25 2xM32	19 30 024 2296	19 30 024 7297	
Han® B, Cover for housings, metal 		09 30 024 5436	09 30 024 5436	

Hoods
Housings


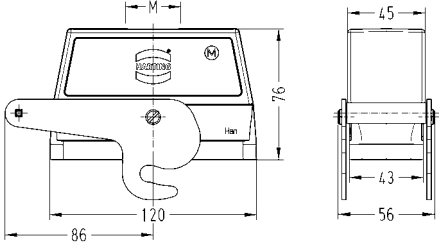

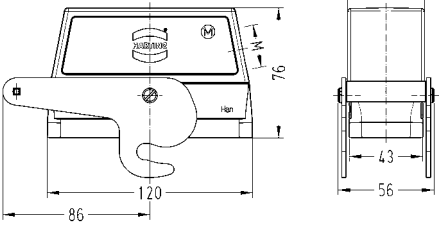

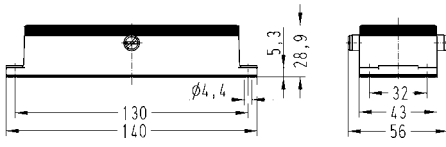
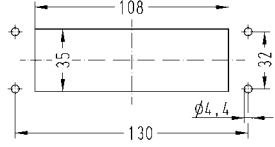

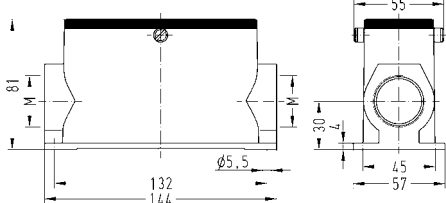


Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Cable to cable housings, top entry, Han-Easy Lock®	1xM32	19 30 024 1752	19 30 024 0757	




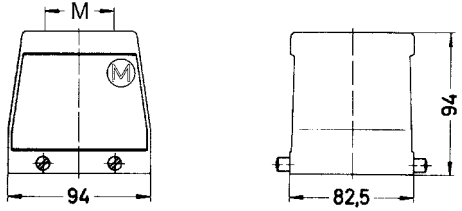

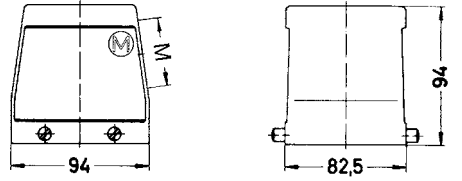
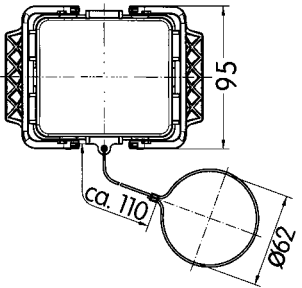

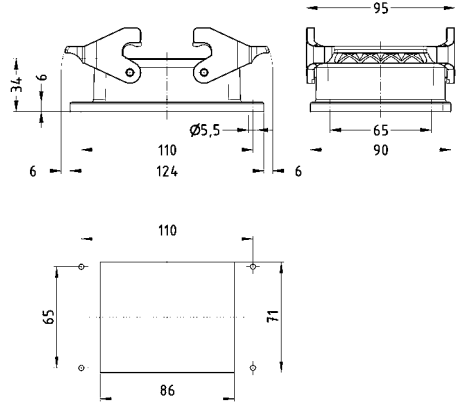


central locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Hoods, top entry 	1xM32		19 30 024 0487	
Han® B, Hoods, side entry 	1xM25 1xM32 1xM40		19 30 024 0586 19 30 024 0587 19 30 024 0588	
Han® B, Bulkhead mounted housings 		09 30 024 0381		  <p>Panel cut out</p>
Han® B, Surface mounted housings, side entry 	2xM32		19 30 024 0282	


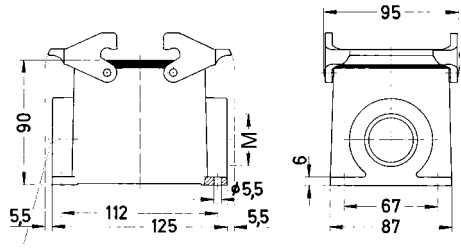

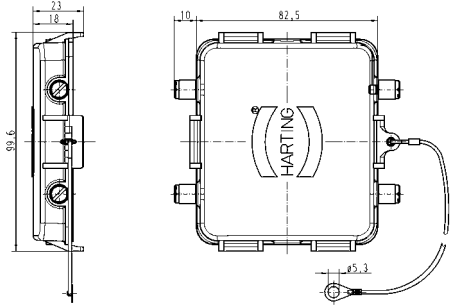

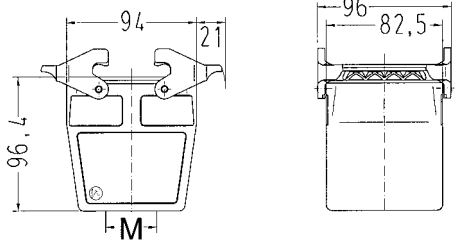
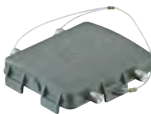
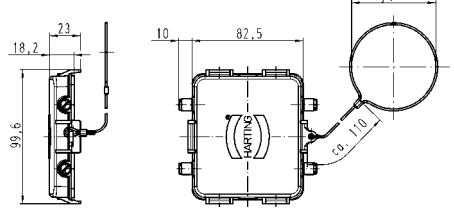
Hoods
Housings

double locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm
		High construction	Low construction	
Han® B, Hoods, top entry 	1xM32 1xM40 1xM50	19 30 032 0427 19 30 032 0428 19 30 032 0429		
Han® B, Hoods, side entry 	1xM32 1xM40 1xM50	19 30 032 0527 19 30 032 0528 19 30 032 0529		
Han® B, Protection cover for hoods, metal, with securing flex		09 30 032 5420	09 30 032 5420	
Han® B, Bulkhead mounted housings, Han-Easy Lock® 			09 30 032 0301	 <p>Panel cut out</p>


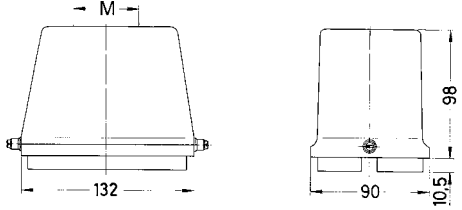

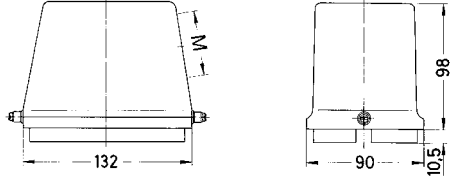

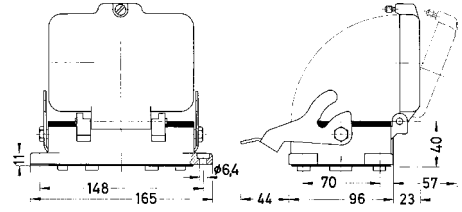
Hoods
Housings




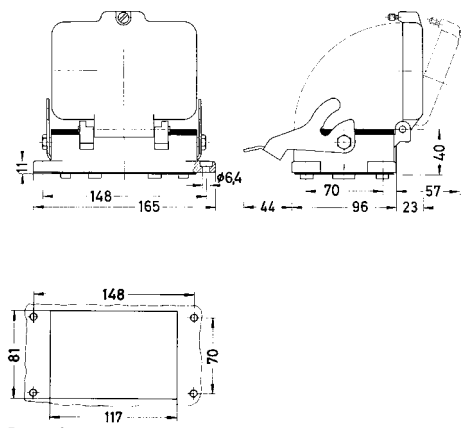

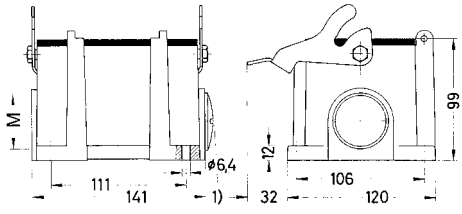

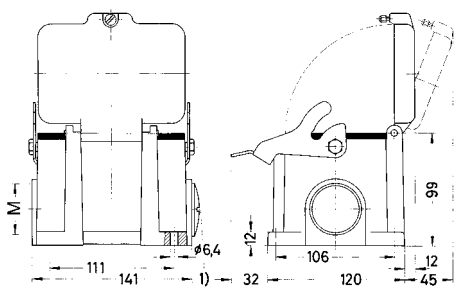
Identification	Cable entry	Part number		Drawing Dimensions in mm
		High construction	Low construction	
Han® B, Surface mounted housings, side entry, Han-Easy Lock® 	1xM32 2xM32 2xM40	19 30 032 0232 19 30 032 0272 19 30 032 0273		
Han® B, Cover for housings, metal, with securing flex 		09 30 032 5425	09 30 032 5425	
Han® B, Cable to cable housings, top entry, Han-Easy Lock® 	1xM40	19 30 032 0738		
Han® B, Protection cover for cable to cable housings, metal, with securing flex 		09 30 032 5426 09 30 032 5427	09 30 032 5426 09 30 032 5427	

Hoods
Housings

single locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Hoods, top entry 	1xM40 1xM50 1xM63		19 30 048 0448 19 30 048 0449 19 30 048 0450	
Han® B, Hoods, side entry 	1xM40 1xM50		19 30 048 0548 19 30 048 0549	
Han® B, Bulkhead mounted housings, with thermo-plastic cover 		09 30 048 0301		 <p>Panel cut out</p>

Hoods
Housings

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® B, Bulkhead mounted housings, with metal cover 		09 30 048 0317		 <p>Panel cut out</p>
Han® B, Surface mounted housings, side entry 	2xM32 2xM40		19 30 048 0292 19 30 048 0293	
Han® B, Surface mounted housings, side entry, with thermo-plastic cover 	2xM40		19 30 048 0298	

Hoods
Housings

Features

- Metal hoods/housings for industrial applications

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (locking lever) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP65 / IP67
Material (hoods/housings)	aluminium
Surface (hoods/housings)	powder-coated
Material (locking lever)	polycarbonate + stainless steel
Colour (locking lever)	RAL 7037 (grey)
Material (seal)	NBR

Specifications and approvals



double locking lever

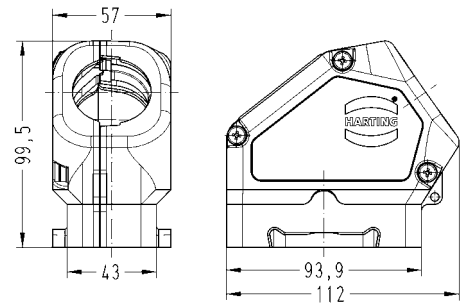
Identification

Part number

Drawing
Dimensions in mm

Han® Easy Hood,
Hoods,
side entry

11 30 016 0520

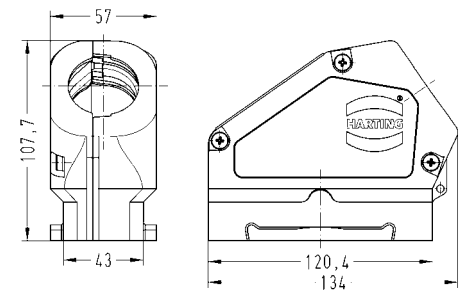


double locking lever

Identification	Part number	Drawing Dimensions in mm
----------------	-------------	-----------------------------

Han® Easy Hood,
Hoods,
side entry

11 30 024 0520


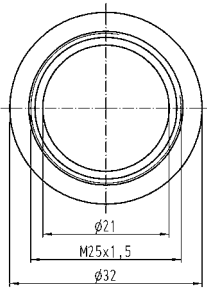
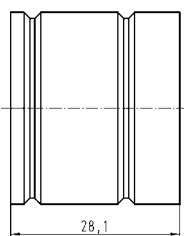

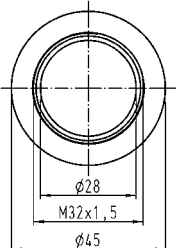
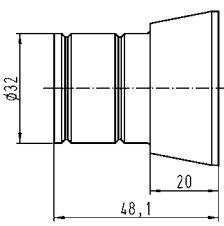


Technical characteristics

Material (accessories) plastic

Technical characteristics

Colour (accessories) black

Identification	Clamping range (mm)	Size	Part number	Drawing Dimensions in mm
<p>Thread adapter</p> 		M25 M32	11 30 000 9961 11 30 000 9962	 
<p>Han® Easy Hood, Cable seal</p> 	20 ... 22 23 ... 25 26 ... 28 29 ... 31 32 ... 34		11 30 000 9955 11 30 000 9956 11 30 000 9957 11 30 000 9958 11 30 000 9959	 

Features

- Angled housing replaces the terminal box
- Compact design saves space
- The position of the terminal housing can be switched by 90°
- Compatible with standard hoods for single lever size 10 B
- Locking levers: Han-Easy Lock®
- Star and delta circuits can be realized in the female connector Han® ESS
- Suitable for standard inserts

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (locking lever) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	aluminium
Surface (hoods/housings)	unpainted, powder-coated
Colour (hoods/housings)	unpainted, RAL 7037 (grey)
Material (locking lever)	polycarbonate + stainless steel
Colour (locking lever)	RAL 7037 (grey)
Material (seal)	NBR

Specifications and approvals



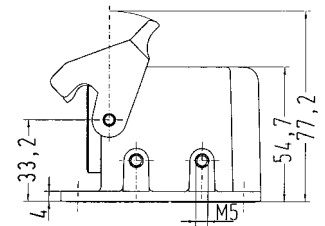
single locking lever



Identification	Part number	Drawing Dimensions in mm
----------------	-------------	-----------------------------

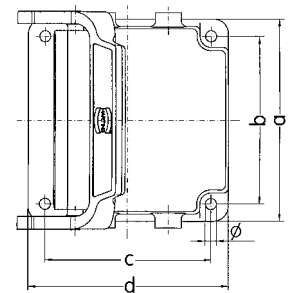
Han-Drive®,
Housings for motor termination,
unpainted,
Han-Easy Lock®

09 30 410 0901
09 30 410 0909
09 30 410 0921



Han-Drive®,
Housings for motor termination,
unpainted,
with protection cover,
Han-Easy Lock®

09 30 410 0951
09 30 410 0960
09 30 410 0970
09 30 410 0971
09 30 410 0974
09 30 410 0983




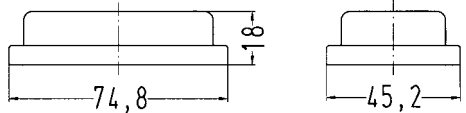

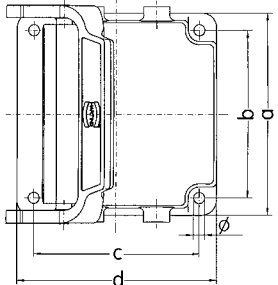

Han-Drive®,
Housings for motor termination,
powder-coated RAL 7037,
Han-Easy Lock®

09 30 010 0901
09 30 010 0902

Han-Drive®,
Housings for motor termination,
powder-coated RAL 7037,
with protection cover,
Han-Easy Lock®

09 30 010 0961

	a	b	c	d	Ø
09 30 010 0901	82	68	68	82	4.5
09 30 010 0902	98			98	
09 30 010 0961	82	70	70	82	
09 30 410 0901	82	68	68	82	4.5
09 30 410 0909	98			98	
09 30 410 0921	85	73	73	85	
09 30 410 0951	82	68	68	82	4.5
09 30 410 0960	98	70	70	98	4.3
09 30 410 0970	92	77	77	92	4.3
09 30 410 0971	85	73	73	85	5.5
09 30 410 0974	92	70	70	92	4.3
09 30 410 0983	92	80	80	92	5.1
09 62 810 0901	82	68	68	82	4.5
09 62 810 0974	92	70	70	92	4.1

Identification	Part number		Drawing Dimensions in mm																																																																																											
	Low construction	High construction																																																																																												
Han® B, Dust protection cover, plastic 	09 30 010 5406	09 30 010 5406																																																																																												
Han-Drive®, EMC housings, Han-Easy Lock® 	09 62 810 0901																																																																																													
Han-Drive®, EMC housings, Han-Easy Lock®, with cover 	09 62 810 0974		<table border="1"> <thead> <tr> <th></th> <th>a</th> <th>b</th> <th>c</th> <th>d</th> <th>Ø</th> </tr> </thead> <tbody> <tr><td>09 30 010 0901</td><td>82</td><td>68</td><td>68</td><td>82</td><td>4.5</td></tr> <tr><td>09 30 010 0902</td><td>98</td><td></td><td></td><td>98</td><td></td></tr> <tr><td>09 30 010 0961</td><td>82</td><td>70</td><td>70</td><td>82</td><td></td></tr> <tr><td>09 30 410 0901</td><td>82</td><td>68</td><td>68</td><td>82</td><td>4.5</td></tr> <tr><td>09 30 410 0909</td><td>98</td><td></td><td></td><td>98</td><td></td></tr> <tr><td>09 30 410 0921</td><td>85</td><td>73</td><td>73</td><td>85</td><td></td></tr> <tr><td>09 30 410 0951</td><td>82</td><td>68</td><td>68</td><td>82</td><td>4.5</td></tr> <tr><td>09 30 410 0960</td><td>98</td><td>70</td><td>70</td><td>98</td><td>4.3</td></tr> <tr><td>09 30 410 0970</td><td>92</td><td>77</td><td>77</td><td>92</td><td>4.3</td></tr> <tr><td>09 30 410 0971</td><td>85</td><td>73</td><td>73</td><td>85</td><td>5.5</td></tr> <tr><td>09 30 410 0974</td><td>92</td><td>70</td><td>70</td><td>92</td><td>4.3</td></tr> <tr><td>09 30 410 0983</td><td>92</td><td>80</td><td>80</td><td>92</td><td>5.1</td></tr> <tr><td>09 62 810 0901</td><td>82</td><td>68</td><td>68</td><td>82</td><td>4.5</td></tr> <tr><td>09 62 810 0974</td><td>92</td><td>70</td><td>70</td><td>92</td><td>4.1</td></tr> </tbody> </table>			a	b	c	d	Ø	09 30 010 0901	82	68	68	82	4.5	09 30 010 0902	98			98		09 30 010 0961	82	70	70	82		09 30 410 0901	82	68	68	82	4.5	09 30 410 0909	98			98		09 30 410 0921	85	73	73	85		09 30 410 0951	82	68	68	82	4.5	09 30 410 0960	98	70	70	98	4.3	09 30 410 0970	92	77	77	92	4.3	09 30 410 0971	85	73	73	85	5.5	09 30 410 0974	92	70	70	92	4.3	09 30 410 0983	92	80	80	92	5.1	09 62 810 0901	82	68	68	82	4.5	09 62 810 0974	92	70	70	92	4.1
	a	b	c	d	Ø																																																																																									
09 30 010 0901	82	68	68	82	4.5																																																																																									
09 30 010 0902	98			98																																																																																										
09 30 010 0961	82	70	70	82																																																																																										
09 30 410 0901	82	68	68	82	4.5																																																																																									
09 30 410 0909	98			98																																																																																										
09 30 410 0921	85	73	73	85																																																																																										
09 30 410 0951	82	68	68	82	4.5																																																																																									
09 30 410 0960	98	70	70	98	4.3																																																																																									
09 30 410 0970	92	77	77	92	4.3																																																																																									
09 30 410 0971	85	73	73	85	5.5																																																																																									
09 30 410 0974	92	70	70	92	4.3																																																																																									
09 30 410 0983	92	80	80	92	5.1																																																																																									
09 62 810 0901	82	68	68	82	4.5																																																																																									
09 62 810 0974	92	70	70	92	4.1																																																																																									

Features

- Hoods/Housings for higher environmental requirements


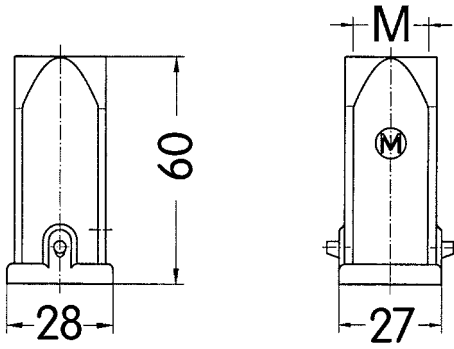

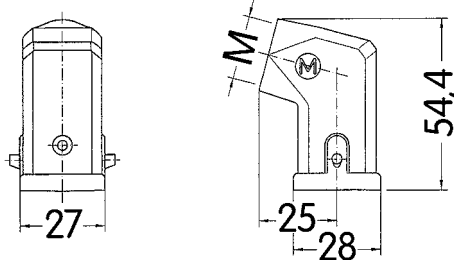

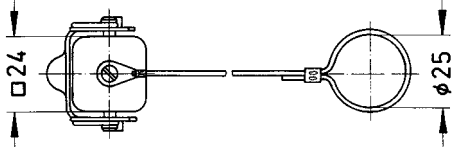

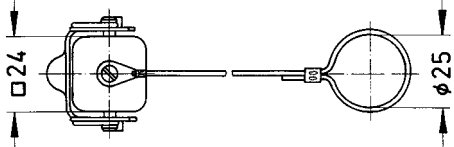
Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP65 / IP67
Corrosion resistance	ASTM B117-09 (500 h)
Material (hoods/housings)	zinc die-cast
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	stainless steel
Material (seal)	FPM

Specifications and approvals




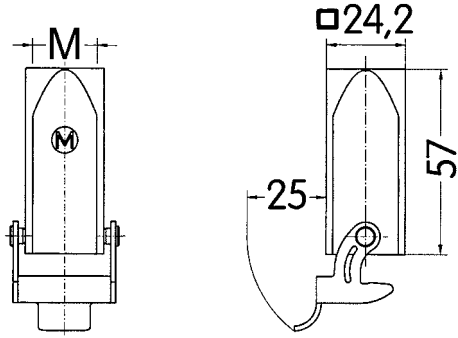

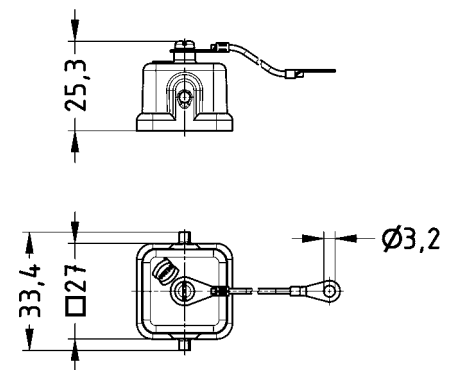

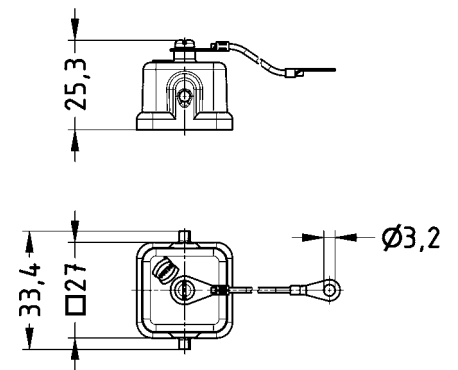

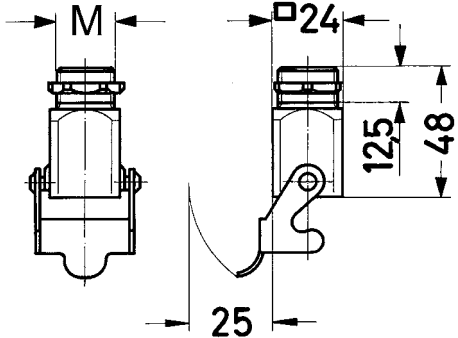
Hoods/Housings for higher environmental requirements
double locking lever

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® M, Hoods, top entry 	1xM20	19 37 003 1440	
Han® M, Hoods, side entry 	1xM20	19 37 003 1640	
Han® M, Protection cover for hoods, metal, for female inserts, with securing flex 		09 37 003 5401	
Han® M, Protection cover for hoods, metal, for male inserts, with securing flex 		09 37 003 5402	

Hoods
Housings

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® M, Bulkhead mounted housings, straight		09 37 003 0301	<p>Panel cut out 22 x 22 mm</p>
Han® M, Bulkhead mounted housings, straight, with cover		09 37 003 0305	
Han® M, Bulkhead mounted housings, angled		09 37 003 0801	<p>Panel cut out 22 x 22 mm</p>
Han® M, Surface mounted housings, top entry	1xM20	19 37 003 1250	<p>Panel cut out 22 x 22 mm</p>

Hoods
Housings

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® M, Cable to cable housings, top entry</p> 	1xM20	19 37 003 1750	
<p>Han® M, Protection cover for housings, for mounted female insert, metal, with securing flex</p> 		09 37 003 5405	
<p>Han® M, Protection cover for housings, for mounted male insert, metal, with securing flex</p> 		09 37 003 5406	
<p>Han® M, Screw mounted housings, top entry</p> 	1xM20	19 37 003 1150	

Features

- Hoods/Housings for higher environmental requirements


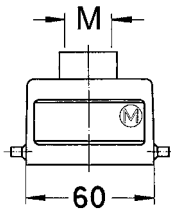
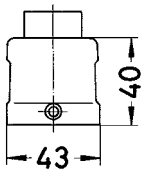

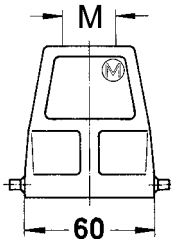
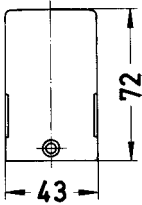
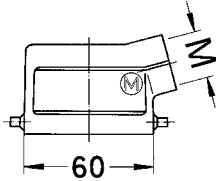
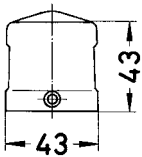
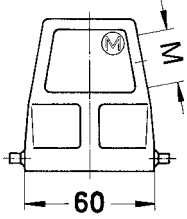
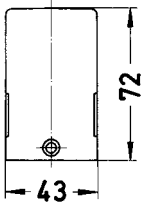
Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (locking lever) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP65
Corrosion resistance	ASTM B117-09 (500 h)
Material (hoods/housings)	aluminium
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	stainless steel, polycarbonate, polycarbonate + stainless steel
Material (seal)	FPM

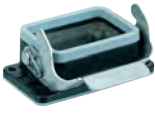
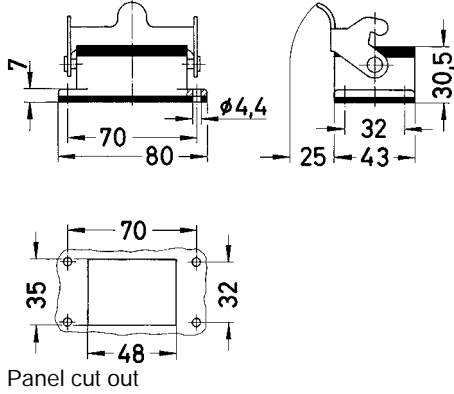

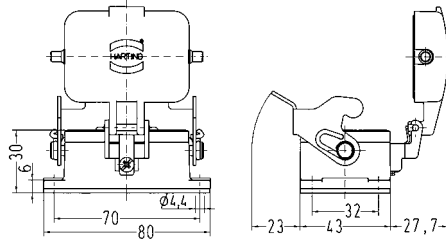

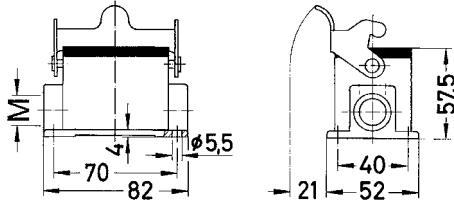

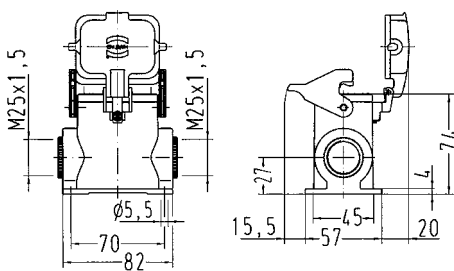
Specifications and approvals



single locking lever


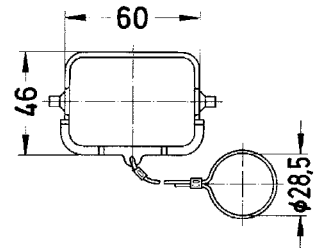
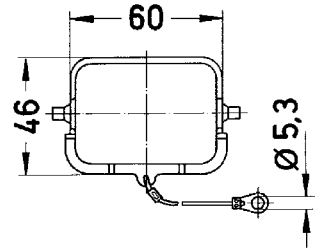
Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han® M, Hoods, top entry 	1xM20 1xM25	19 37 006 1440	19 37 006 0445 19 37 006 0446	 	
Han® M, Hoods, side entry 	1xM20 1xM25	19 37 006 1540	19 37 006 0545 19 37 006 0546	 	
				 	
				 	

Hoods
Housings


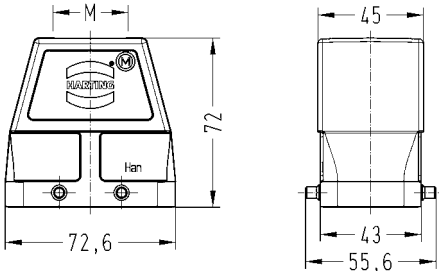
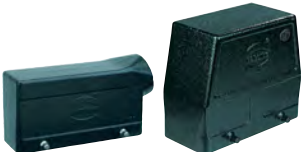
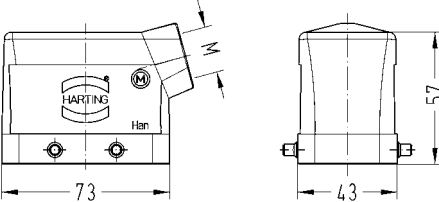

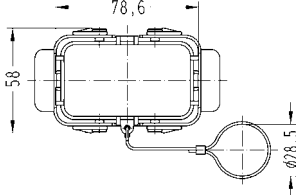
Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® M, Bulkhead mounted housings 		09 37 006 0301		 <p>Panel cut out</p>
Han® M, Bulkhead mounted housings, with metal cover 		09 37 006 0318		
Han® M, Surface mounted housings, side entry 	2xM20	19 37 006 1290		
Han® M, Surface mounted housings, side entry, with thermo-plastic cover 	2xM25		19 37 006 0296	

Hoods
Housings




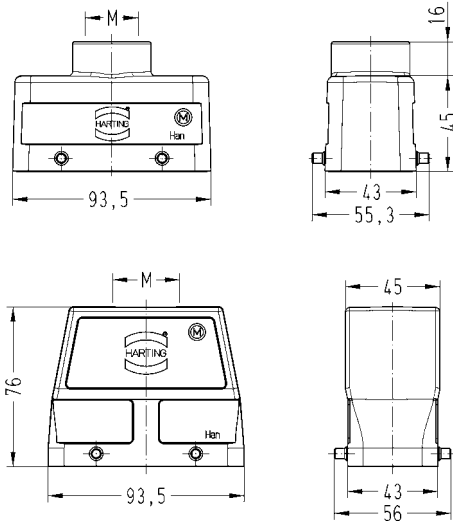

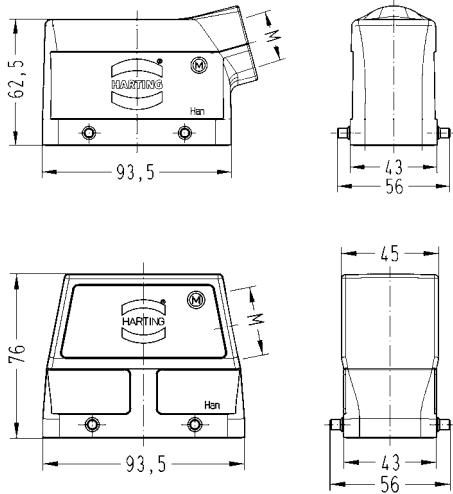

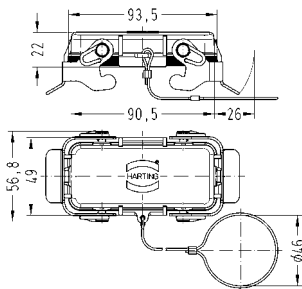
Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® M, Protection cover, metal, with securing flex 		09 37 006 5407 09 37 006 5405	09 37 006 5407 09 37 006 5405	 

double locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® M, Hoods, top entry 	1xM20 1xM25 1xM32 2xM20	19 37 010 1420	19 37 010 0426 19 37 010 0427 19 37 010 0465	
Han® M, Hoods, side entry 	1xM20 1xM25 1xM32 1xM40	19 37 010 1520	19 37 010 0526 19 37 010 0527 19 37 010 0528	
Han® M, Protection cover for hoods, metal, with securing flex 		09 37 010 5403	09 37 010 5403	


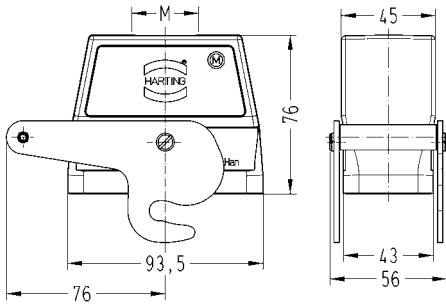

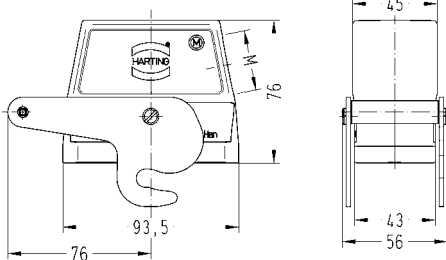

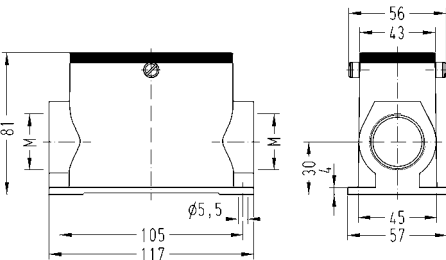
Hoods
Housings

double locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® M, Hoods, top entry 	1xM25 1xM32	19 37 016 1421	19 37 016 0427	
Han® M, Hoods, side entry 	1xM25 1xM32 1xM40	19 37 016 1521	19 37 016 0527 19 37 016 0528	
Han® M, Protection cover for hoods, metal, with securing flex 		09 37 016 5402	09 37 016 5402	


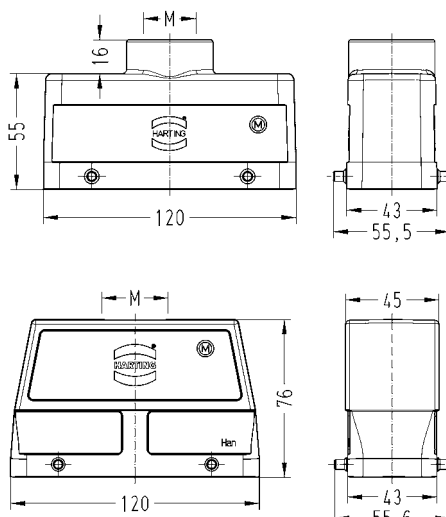

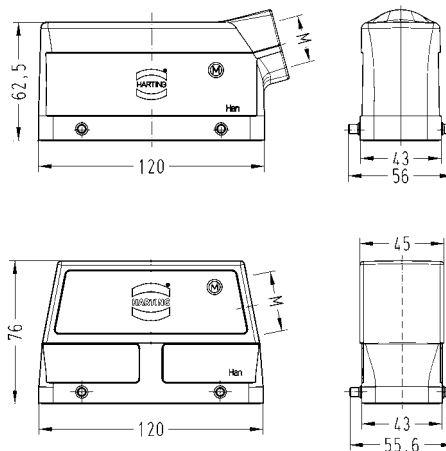

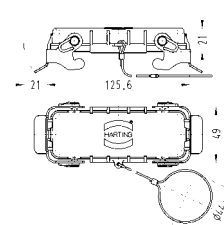
Hoods
Housings

central locking lever

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® M, Hoods, top entry</p> 	<p>1xM32</p>	<p>19 37 016 0487</p>	
<p>Han® M, Hoods, side entry</p> 	<p>1xM32</p>	<p>19 37 016 0587</p>	
<p>Han® M, Surface mounted housings, side entry</p> 	<p>2xM32</p>	<p>19 37 016 0282</p>	


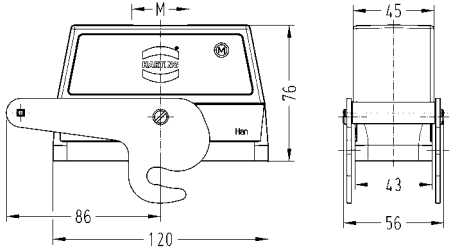

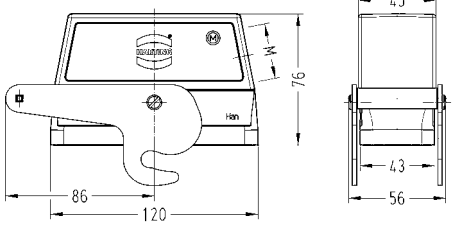

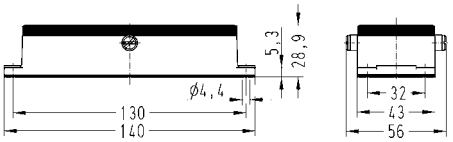
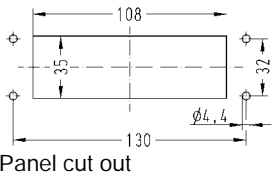

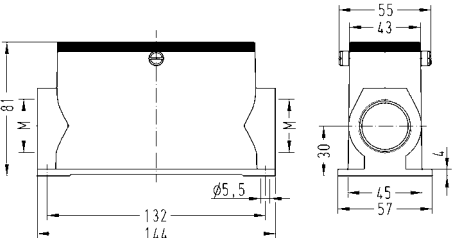
Hoods
Housings

double locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® M, Hoods, top entry 	1xM25 1xM32 1xM40	19 37 024 1421	19 37 024 0427 19 37 024 0428	
Han® M, Hoods, side entry 	1xM25 1xM32 1xM40	19 37 024 1521	19 37 024 0527 19 37 024 0528	
Han® M, Protection cover for hoods, metal 		09 37 024 5402	09 37 024 5402	


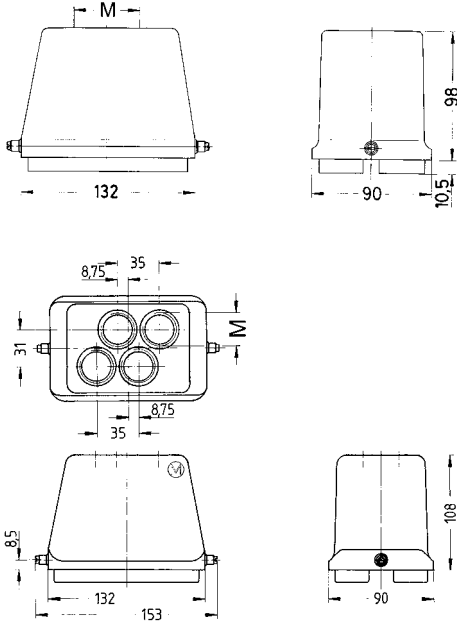

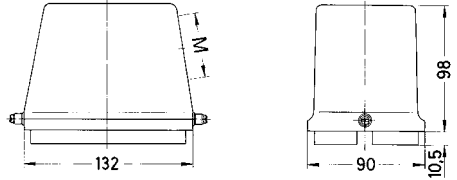

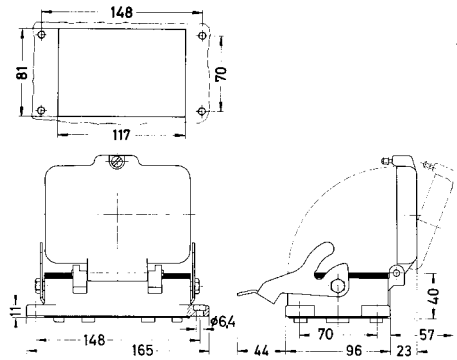
Hoods
Housings

central locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® M, Hoods, top entry 	1xM32		19 37 024 0487	
Han® M, Hoods, side entry 	1xM32		19 37 024 0587	
Han® M, Bulkhead mounted housings 		09 37 024 0381		  Panel cut out
Han® M, Surface mounted housings, side entry 	2xM32		19 37 024 0282	

Hoods
Housings

single locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han® M, Hoods, top entry 	1xM40 1xM50 4xM25		19 37 048 0448 19 37 048 0449 19 37 048 0401		
Han® M, Hoods, side entry 	1xM40		19 37 048 0548		
Han® M, Bulkhead mounted housings 		09 37 048 0301			

Hoods
Housings

Features

- Hoods/Housings for higher EMC requirements
- Excellent shield transitions and a low transfer impedance
- **Field of application:** For sensitive interconnections that have to be shielded against electrical, magnetic or electro-magnetic interferences
- Distinguishing feature: Electrically conductive surface, internal seal

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP44 / IP67 is achieved with seal screw 09 20 000 9918
Material (hoods/housings)	zinc die-cast
Surface (hoods/housings)	electrical conductive
Material (locking lever)	steel, zinc-plated
Material (seal)	NBR


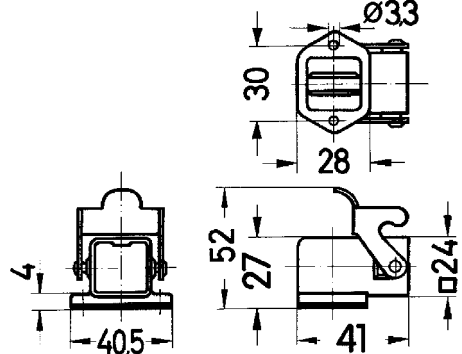
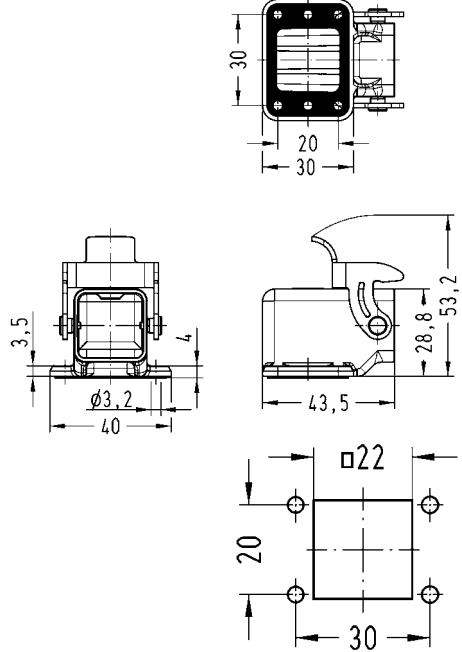

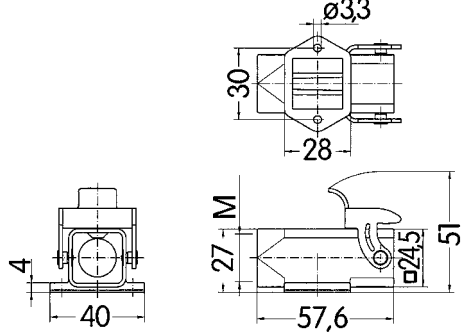
Specifications and approvals




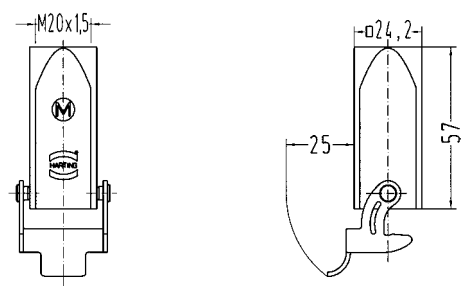

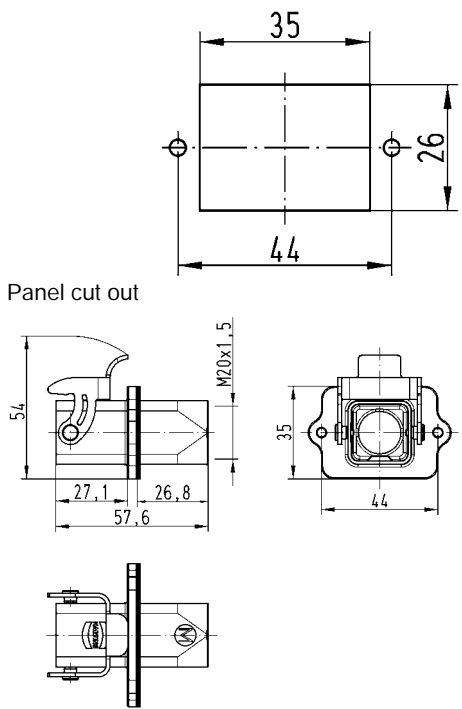

Hoods/Housings for higher EMC requirements
double locking lever

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® EMV, Hoods, top entry	1xM20	19 62 003 1440	
Han® EMV, Hoods, side entry	1xM20	19 62 003 1640	
Han® EMV, Bulkhead mounted housings, straight		09 62 003 0301	<p>Panel cut out 22 x 22 mm</p>

Hoods
Housings

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® EMV, Bulkhead mounted housings, angled</p> 		<p>09 62 003 0801 09 62 003 0810</p>	 <p>Panel cut out 22 x 22 mm</p> 
<p>Han® EMV, Surface mounted housings, top entry</p> 	<p>1xM20</p>	<p>19 62 003 1250</p>	 <p>Panel cut out 22 x 22 mm</p>



Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® EMV, Cable to cable housings, top entry 	1xM20	19 62 003 1750	
Han® EMV, Panel feed through housings, top entry 	1xM20	19 62 003 1120	
Han® EMV, Screw mounted housings, top entry 	1xM20	19 62 003 1150	

Hoods
Housings

Features

- Hoods/Housings for higher EMC requirements
- Excellent shield transitions and a low transfer impedance
- **Field of application:** For sensitive interconnections that have to be shielded against electrical, magnetic or electro-magnetic interferences
- Distinguishing feature: Electrically conductive surface, internal seal


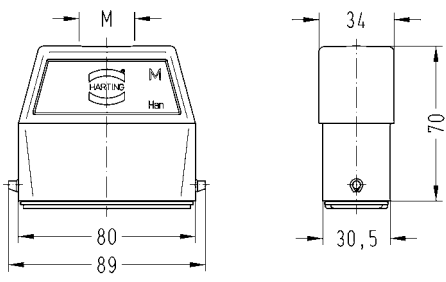

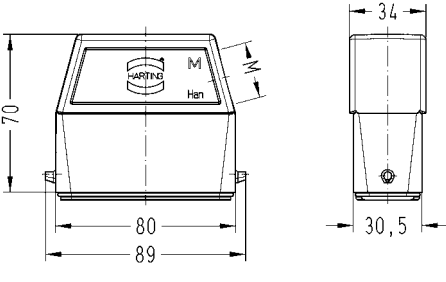

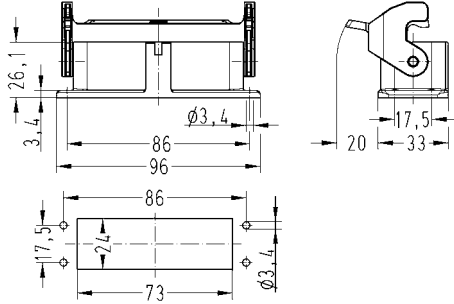
Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (locking lever) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	aluminium
Surface (hoods/housings)	unpainted
Material (locking lever)	polycarbonate + stainless steel, stainless steel
Material (seal)	NBR

Specifications and approvals



Hoods/Housings for higher EMC requirements
single locking lever

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® EMV, Hoods, top entry 	1xM25	19 62 025 0446	
Han® EMV, Hoods, side entry 	1xM25	19 62 025 0546	
Han® EMV, Bulkhead mounted housings, Han-Easy Lock® 		09 62 025 0301	 <p>Panel cut out</p>

Hoods/Housings for higher EMC requirements

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® EMV, Hoods, top entry, screw locking	1xM25 1xM32	19 62 006 0441 19 62 006 0442	
Han® EMV, Hoods, side entry, screw locking	1xM25	19 62 006 0541	
Han® EMV, Bulkhead mounted housings, screw locking		09 62 006 0301	<p>Panel cut out</p>

Hoods
Housings

Hoods/Housings for higher EMC requirements

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® EMV, Hoods, top entry, screw locking	1xM32	19 62 010 0442	
Han® EMV, Hoods, side entry, screw locking	1xM32 1xM40	19 62 010 0542 19 62 010 0543	
Han® EMV, Bulkhead mounted housings, screw locking		09 62 010 0301	<p>Panel cut out</p>

Hoods/Housings for higher EMC requirements

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® EMV, Hoods, top entry, screw locking	1xM32	19 62 040 0442	
Han® EMV, Hoods, side entry, screw locking	1xM32	19 62 040 0542	
Han® EMV, Bulkhead mounted housings, screw locking		09 62 040 0301	<p>Panel cut out</p>

Hoods
Housings

Hoods/Housings for higher EMC requirements

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® EMV, Hoods, top entry, screw locking	1xM40	19 62 064 0443	
Han® EMV, Hoods, side entry, screw locking	1xM40	19 62 064 0543	
Han® EMV, Bulkhead mounted housings, screw locking		09 62 064 0301	<p>Panel cut out</p>

Features

- Hoods/Housings for higher EMC requirements
- Excellent shield transitions and a low transfer impedance
- Locking levers: Han-Easy Lock®
- **Field of application:** For sensitive interconnections that have to be shielded against electrical, magnetic or electro-magnetic interferences
- Distinguishing feature: Electrically conductive surface, internal seal


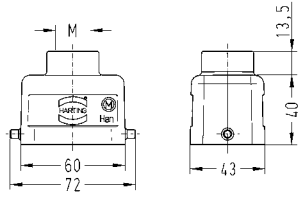
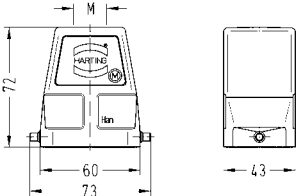

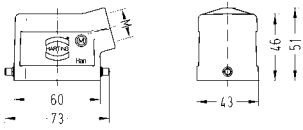
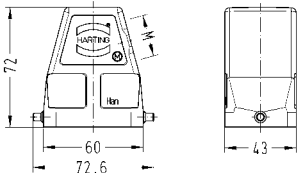

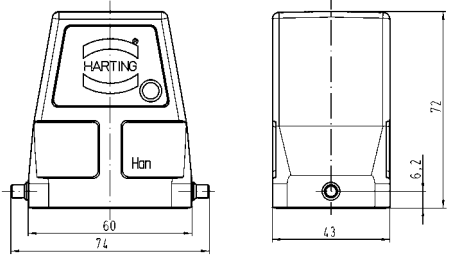
Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Limiting temperatures with High Temp components	-40 °C ... 200 °C
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	aluminium
Surface (hoods/housings)	unpainted
Material (locking lever)	polycarbonate + stainless steel
Material (seal)	NBR

Specifications and approvals


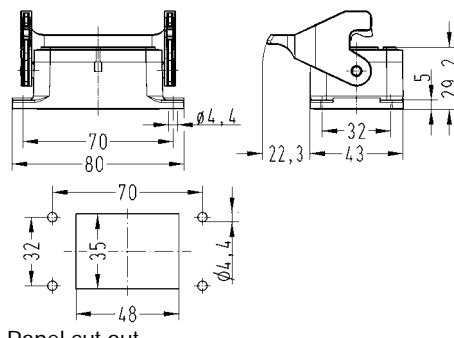

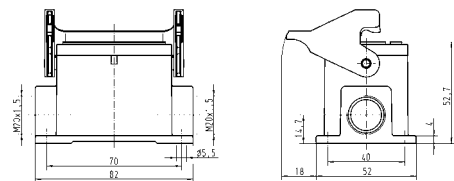


single locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® EMC/B, Han® High Temp, Hoods, top entry 	1xM20 1xM25 1xM32	19 62 806 1440	19 62 806 0446 19 62 806 0447	 
Han® EMC/B, Han® High Temp, Hoods, side entry 	1xM20 1xM25 1xM32	19 62 806 1540	19 62 806 0546 19 62 806 0547	 
Han® EMC/B, Han® High Temp, Hoods, without cable entry 			09 62 806 0801	


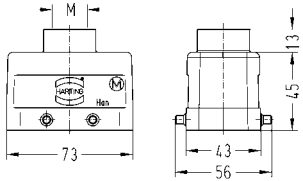
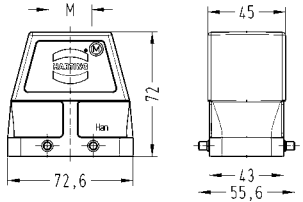

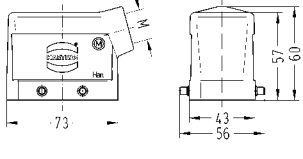
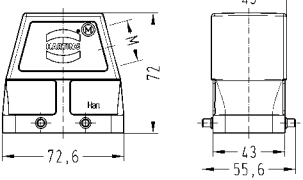

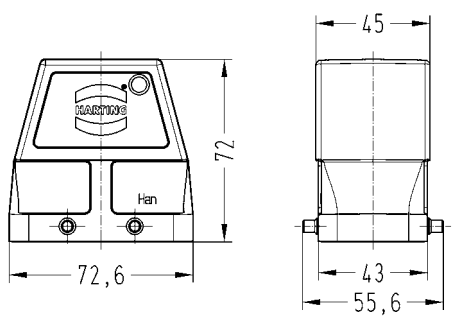
Hoods
Housings



Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® EMC/B, Bulkhead mounted housings, Han-Easy Lock® 		09 62 806 0301		 <p>Panel cut out</p>
Han® EMC/B, Surface mounted housings, side entry, Han-Easy Lock® 	2xM20	19 62 806 1290		


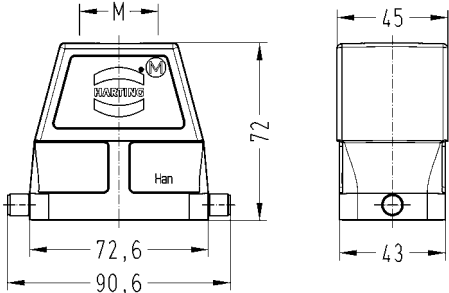

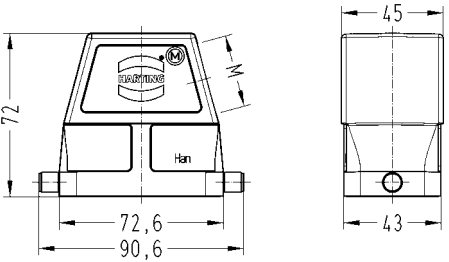

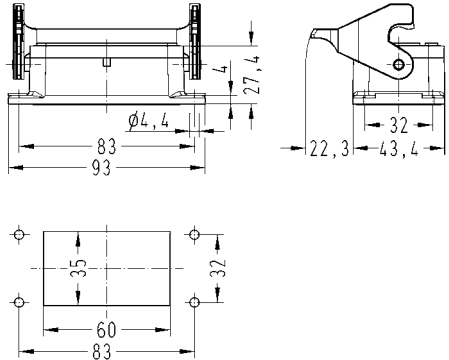
Hoods
Housings

double locking lever


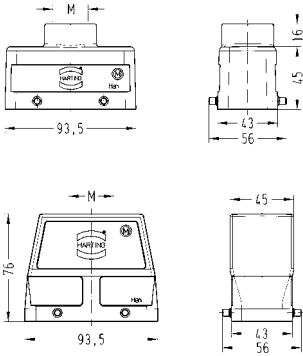

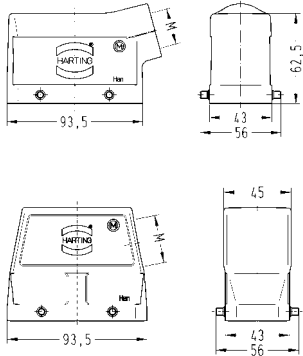

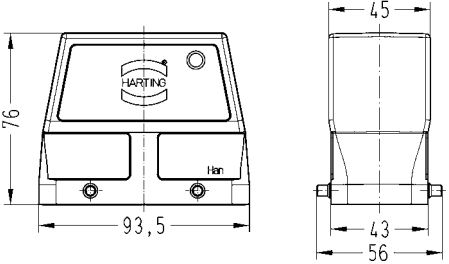
Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® EMC/B, Han® High Temp, Hoods, top entry 	1xM20 1xM25 1xM32	19 62 810 1420 19 62 810 1421	19 62 810 0426 19 62 810 0427	 
Han® EMC/B, Han® High Temp, Hoods, side entry 	1xM20 1xM25 1xM32	19 62 810 1520	19 62 810 0526 19 62 810 0527	 
Han® EMC/B, Han® High Temp, Hoods, without cable entry 			09 62 810 0801	

Hoods
Housings


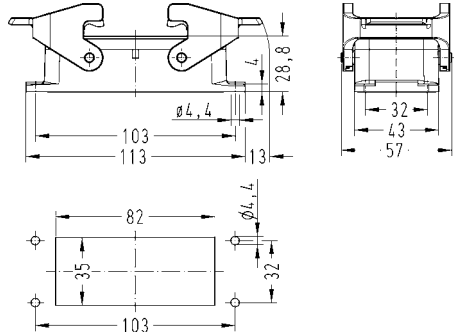

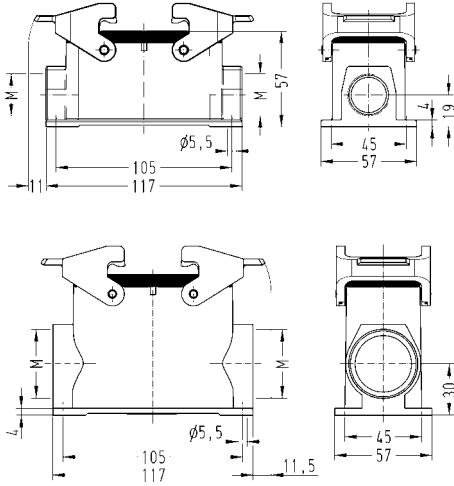
single locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm	
		Low construction	High construction		
Han® EMC/B, Hoods, top entry 	1xM25 1xM32		19 62 810 0446 19 62 810 0447		
Han® EMC/B, Hoods, side entry 	1xM32		19 62 810 0547		
Han® EMC/B, Bulkhead mounted housings, Han-Easy Lock® 		09 62 810 0305		 <p>Panel cut out</p>	


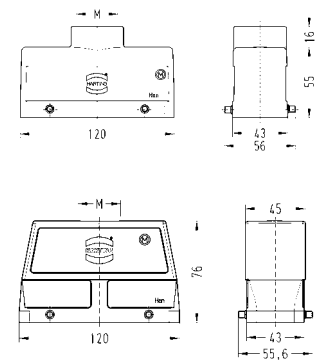

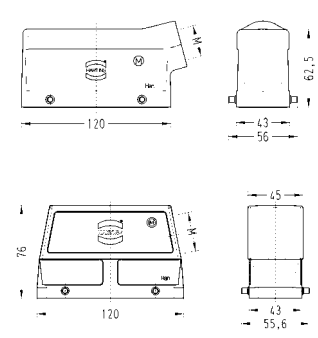

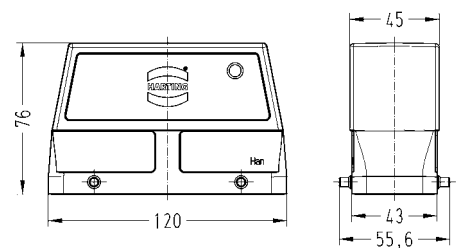

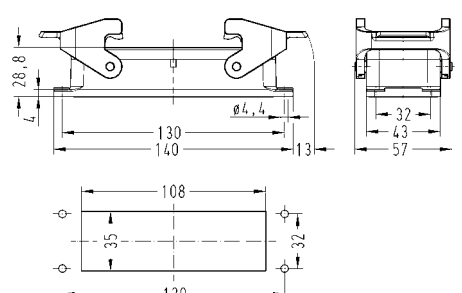
double locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® EMC/B, Han® High Temp, Hoods, top entry 	1xM25 1xM32	19 62 816 1421	19 62 816 0427	
Han® EMC/B, Han® High Temp, Hoods, side entry 	1xM25 1xM32	19 62 816 1521	19 62 816 0527	
Han® EMC/B, Han® High Temp, Hoods, without cable entry 			09 62 816 0801	


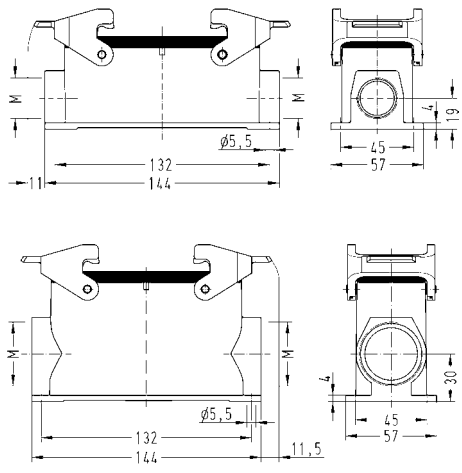
Hoods
Housings

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® EMC/B, Bulkhead mounted housings, Han-Easy Lock® 		09 62 816 0301		 <p>Panel cut out</p>
Han® EMC/B, Surface mounted housings, side entry, Han-Easy Lock® 	2xM25 2xM40	19 62 816 1271	19 62 816 0273	

double locking lever

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® EMC/B, Han® High Temp, Hoods, top entry 	1xM32	19 62 824 1422	19 62 824 0427	
Han® EMC/B, Han® High Temp, Hoods, side entry 	1xM25 1xM32 1xM40	19 62 824 1521	19 62 824 0527 19 62 824 0528	
Han® EMC/B, Han® High Temp, Hoods, without cable entry 			09 62 824 0801	
Han® EMC/B, Bulkhead mounted housings, Han-Easy Lock® 		09 62 824 0301		 Panel cut out

Hoods
Housings

Identification	Cable entry	Part number		Drawing Dimensions in mm
		Low construction	High construction	
Han® EMC/B, Surface mounted housings, side entry, Han-Easy Lock® 	2xM25 2xM40	19 62 824 1271	19 62 824 0273	

Features

- Hoods/Housings for harsh environmental requirements
- Highly EMC resistant
- Screw locking M4
- Field of application: For external electrical interconnections in vehicles, in highly demanding environments and wet areas, as well as for sensitive interconnections that have to be shielded
- Distinguishing feature: colour-coded black, internal seal (RAL 9005)


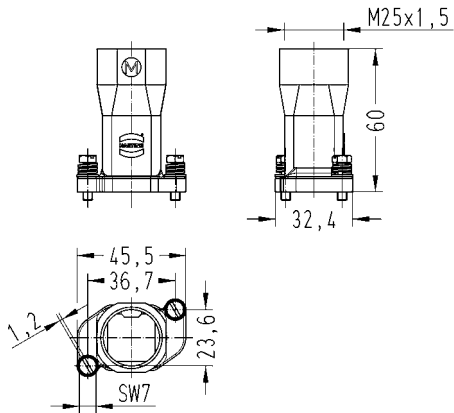
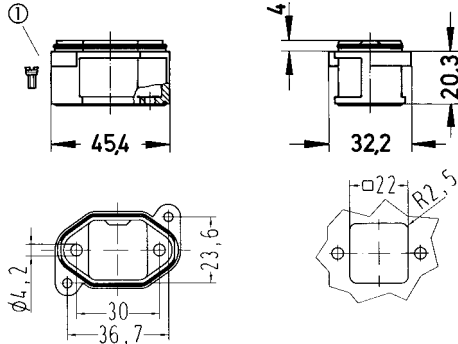
Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Protection class acc. to UL 50	NEMA 4/12, NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP69K
Degree of protection acc. to IEC 60529	IP65 / IP68
Tightening torque (locking)	2 Nm
Corrosion resistance	ASTM B117-09 (500 h)
Material (hoods/housings)	zinc die-cast
Surface (hoods/housings)	powder-coated, chromated
Colour (hoods/housings)	RAL 9005 (black)
Material (seal)	NBR
Material (screwing)	stainless steel


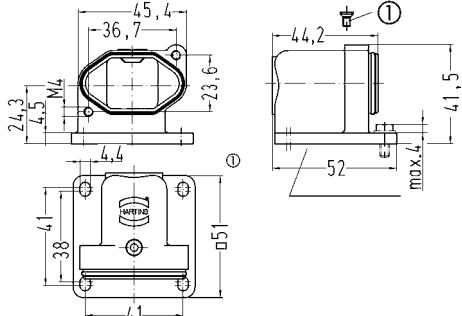

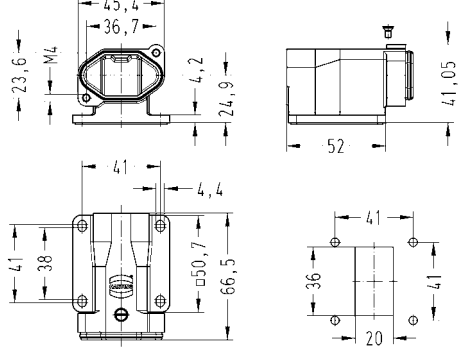

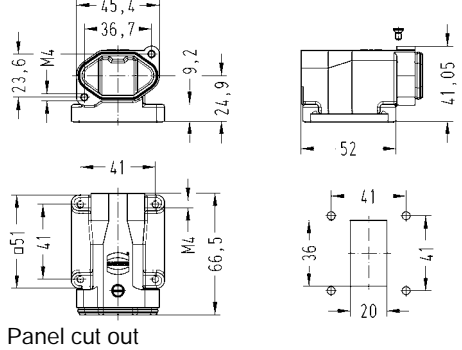
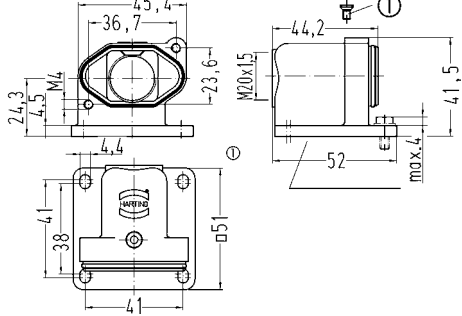
Specifications and approvals




Hoods/Housings for harsh environmental requirements


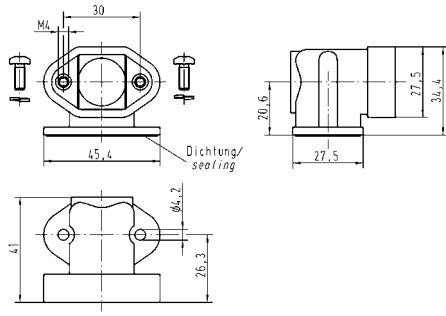

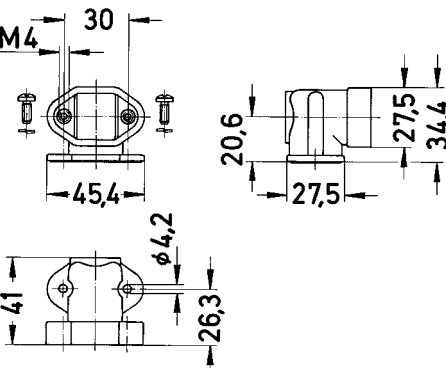
Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Hoods, with sealing screw, top entry, toggle locking</p> <p>Han® HPR, Hoods, with sealing screw, top entry, screw locking</p> 	<p>1xM20</p> <p>1xM20 1xM25</p>	<p>19 40 703 0400</p> <p>19 40 703 0410 19 40 703 0411</p>	
<p>Han® HPR, Bulkhead mounted housings, with sealing screw, toggle locking</p> <p>Han® HPR, Bulkhead mounted housings, with sealing screw, screw locking</p>		<p>09 40 703 0301</p> <p>09 40 703 0311</p>	 <p>Panel cut out 21.3 x 21.3 mm ① sealing screw</p>

Hoods
Housings

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Bulkhead mounted housings, angled, with sealing screw, screw locking</p> 		09 40 703 0950	 <p>Panel cut out 21.3 x 21.3 mm ① sealing screw</p>
<p>Han® HPR, Bulkhead mounted housings, angled, screw locking, long version, feed through hole for fixing screws</p> 		09 40 703 0951	 <p>Panel cut out</p>
<p>Han® HPR, Bulkhead mounted housings, angled, screw locking, long version, tapped blind hole for fixing screws</p> 		09 40 703 0953	 <p>Panel cut out</p>
<p>Han® HPR, Surface mounted housings, angled, with sealing screw, top entry, screw locking, bottom closed</p>	1xM20	19 40 703 0950	 <p>① sealing screw</p>

Hoods
Housings

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Surface mounted housings, angled, with sealing screw, top entry, screw locking, long version with closed bottom and feed through hole for fixing screws</p>	<p>1xM25</p>	<p>19 40 703 0951</p>	<p>Panel cut out</p>
<p>Han® HPR, Surface mounted housings, angled, with sealing screw, top entry, screw locking, long version with closed bottom and tapped blind hole for fixing screws</p>	<p>1xM25</p>	<p>19 40 703 0953</p>	<p>Panel cut out</p>
<p>Han® HPR, Cover for housings, toggle locking</p>		<p>09 40 703 5401</p>	
<p>Han® HPR, Cover for housings, toggle locking, with securing flex</p>		<p>09 40 703 5402</p>	
<p>Han® HPR, Cover for housings, screw locking</p>		<p>09 40 703 5411</p>	
<p>Han® HPR, Cover for housings, screw locking, with securing flex</p>		<p>09 40 703 5412</p>	
<p>Han® HPR, Dust protection cover, plastic</p> 		<p>09 40 003 5406</p>	<p>Hoods Housings</p>


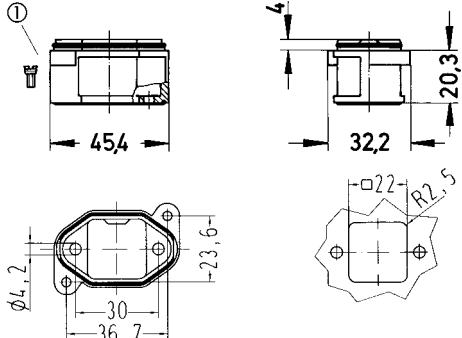

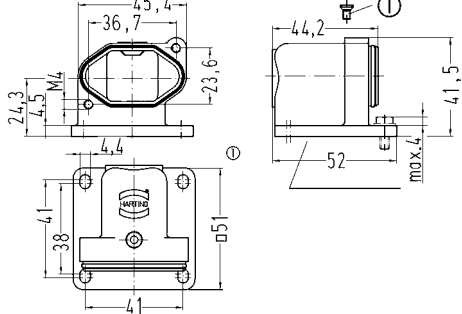

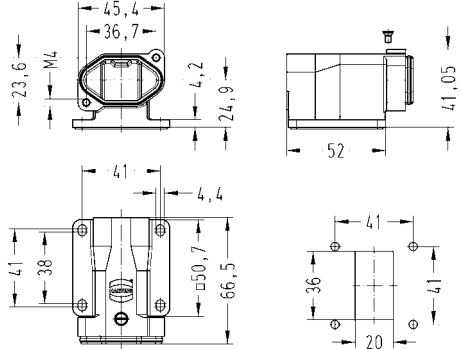

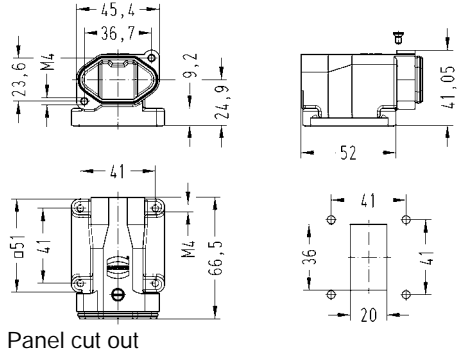
Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Adaptor, powder-coated, top entry, open bottom</p>  <p>for assembly of bulkhead mounted bulk-head mounted position</p>	<p>1xM20</p>	<p>19 40 703 0900</p>	
<p>Han® HPR, Adaptor, powder-coated, open bottom</p>  <p>for assembly of bulkhead mounted bulk-head mounted position</p>		<p>09 40 703 0902</p>	

Hoods
Housings


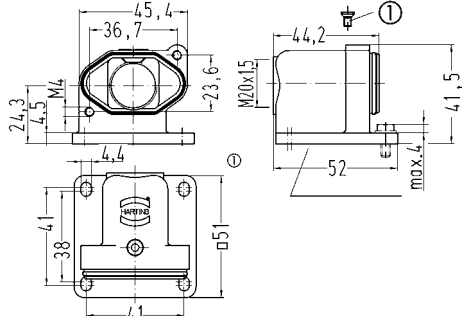

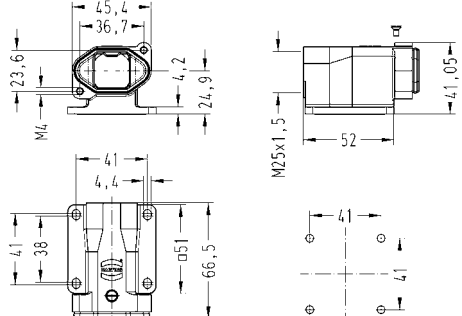

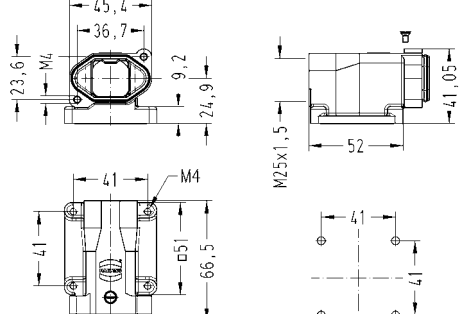
Hoods/Housings for harsh environmental requirements



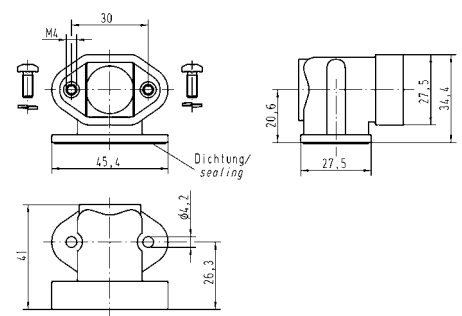

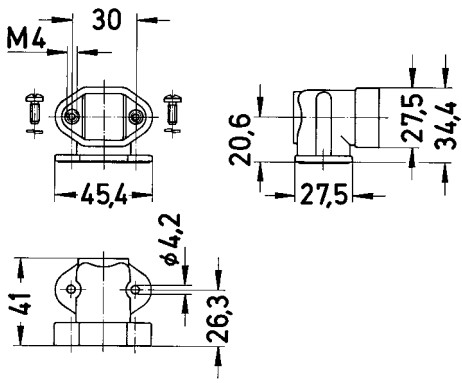
Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® HPR, Hoods, with sealing screw, top entry, toggle locking	1xM20	19 40 003 0400	
Han® HPR, Hoods, with sealing screw, top entry, screw locking	1xM20 1xM25	19 40 003 0410 19 40 003 0411	<p>① sealing screw</p>
Han® HPR, Bulkhead mounted housings, with sealing screw, toggle locking		09 40 003 0301	

Hoods
Housings

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Bulkhead mounted housings, with sealing screw, screw locking</p> 		09 40 003 0311	 <p>Panel cut out 21.3 x 21.3 mm ① sealing screw</p>
<p>Han® HPR, Bulkhead mounted housings, angled, with sealing screw, screw locking</p> 		09 40 003 0950	 <p>Panel cut out 21.3 x 21.3 mm ① sealing screw</p>
<p>Han® HPR, Bulkhead mounted housings, angled, screw locking, long version, feed through hole for fixing screws</p> 		09 40 003 0951	 <p>Panel cut out</p>
<p>Han® HPR, Bulkhead mounted housings, angled, with sealing screw, screw locking, long version, tapped blind hole for fixing screws</p> 		09 40 003 0953	 <p>Panel cut out</p>

Hoods
Housings

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Surface mounted housings, angled, with sealing screw, top entry, screw locking, bottom closed</p> 	1xM20	19 40 003 0950	 <p>① sealing screw</p>
<p>Han® HPR, Surface mounted housings, angled, with sealing screw, top entry, screw locking, long version</p>  <p>with closed bottom and feed through hole for fixing screws</p>	1xM25	19 40 003 0951	 <p>Panel cut out</p>
<p>Han® HPR, Surface mounted housings, angled, with sealing screw, top entry, screw locking, long version</p>  <p>with closed bottom and tapped blind hole for fixing screws</p>	1xM25	19 40 003 0953	 <p>Panel cut out</p>
<p>Han® HPR, Cover for housings, toggle locking</p> <p>Han® HPR, Cover for housings, toggle locking, with securing flex</p> <p>Han® HPR, Cover for housings, screw locking</p> <p>Han® HPR, Cover for housings, screw locking, with securing flex</p>		<p>09 40 003 5401</p> <p>09 40 003 5402</p> <p>09 40 003 5411</p> <p>09 40 003 5412</p>	<p>Hoods Housings</p>

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® HPR, Dust protection cover, plastic 		09 40 003 5406	
Han® HPR, Adaptor, chromated, top entry, open bottom for assembly of bulkhead mounted bulk- head mounted position 	1xM20	19 40 003 0900	 <p>Technical drawing showing dimensions for the adaptor for bulkhead mounted position. Dimensions include: 30, M4, 45,4, 20,6, 27,5, 34,4, 27,5, 41, 26,3, 8,2, and a label 'Dichtung/sealing'.</p>
Han® HPR, Adaptor, chromated, open bottom for assembly of bulkhead mounted bulk- head mounted position 		09 40 003 0902	 <p>Technical drawing showing dimensions for the adaptor for open bottom position. Dimensions include: 30, M4, 45,4, 20,6, 27,5, 34,4, 27,5, 41, 26,3, 8,2, and a diameter symbol $\phi 4,2$.</p>

Hoods
Housings

Features

- Hoods/Housings, pressure tight
- Highly EMC resistant
- Screw locking M6
- Field of application: For external electrical interconnections in vehicles, in highly demanding environments and wet areas, as well as for sensitive interconnections that have to be shielded
- Distinguishing feature: colour-coded black, internal seal (RAL 9005)

Technical characteristics


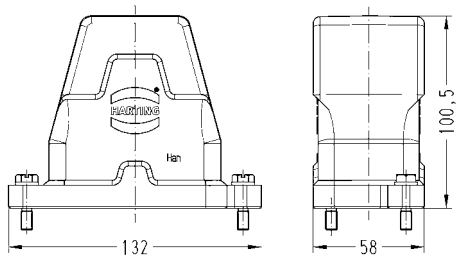
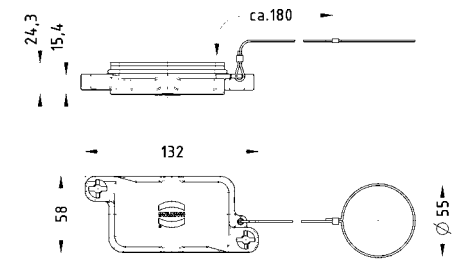

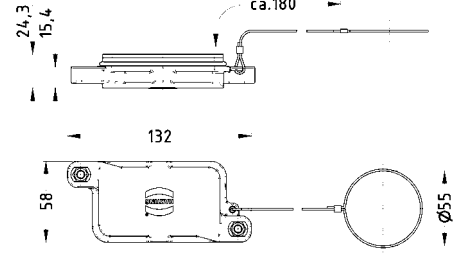

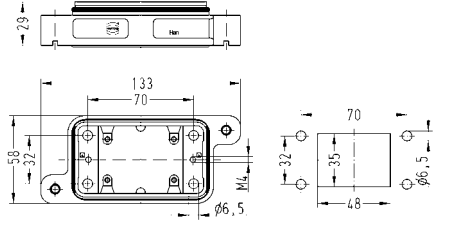

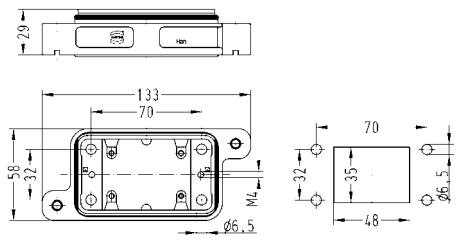
Limiting temperatures	-40 °C ... 125 °C
Protection class acc. to UL 50	NEMA 4/12
Degree of protection acc. to IEC 60529	IP69K
Degree of protection acc. to IEC 60529	IP65 / IP68
Tightening torque (locking)	4 Nm
Corrosion resistance	ASTM B117-09 (500 h)
Material (hoods/housings)	aluminium die-cast, corrosion resistant
Surface (hoods/housings)	powder-coated
Colour (hoods/housings)	RAL 9005 (black)
Material (locking lever)	stainless steel
Material (seal)	NBR
Material (screwing)	stainless steel


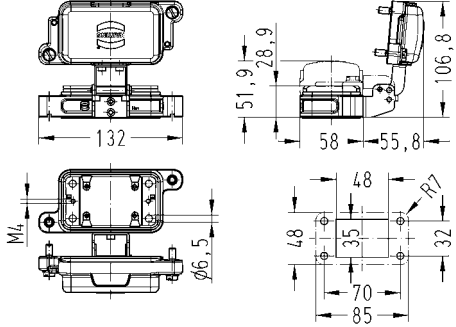

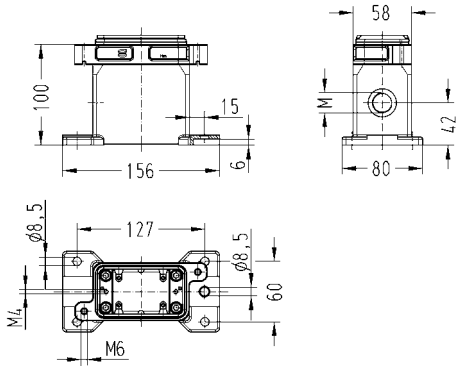

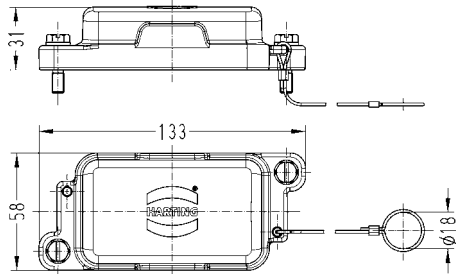

Specifications and approvals



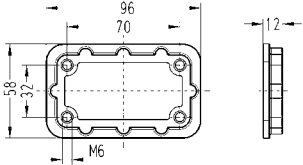
Identification	Cable entry	Part number	Drawing Dimensions in mm	
Han® HPR, Hoods, top entry, toggle locking	1xM25	19 40 006 0401		
Han® HPR, Hoods, top entry, screw locking	1xM20 1xM25 1xM32 1xM40	19 40 006 0410 19 40 006 0411 19 40 006 0412 19 40 006 0413		
Han® HPR, Hoods, side entry, toggle locking	1xM25	19 40 006 0501		
Han® HPR, Hoods, side entry, toggle locking	1xM25	19 40 006 0501		
Han® HPR, Hoods, side entry, screw locking	1xM20 1xM25 1xM32 1xM40	19 40 006 0510 19 40 006 0511 19 40 006 0512 19 40 006 0513		

Hoods
Housings

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Hoods, without cable entry, screw locking</p> 		09 40 006 0811	
<p>Han® HPR, Protection cover for hoods, metal, toggle locking</p>		09 40 006 5404	
<p>Han® HPR, Protection cover for hoods, metal, screw locking</p> 		09 40 006 5414	
<p>Han® HPR, Bulkhead mounted housings, toggle locking</p> 		09 40 006 0301	
<p>Han® HPR, Bulkhead mounted housings, screw locking</p> 		09 40 006 0311	


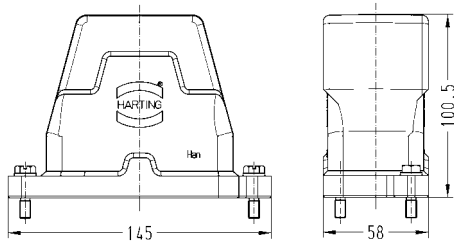

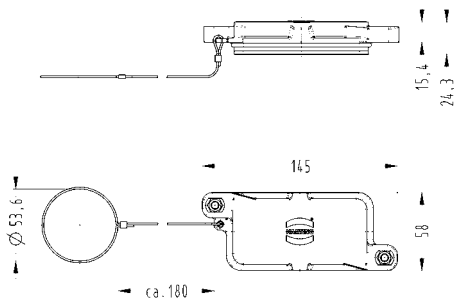

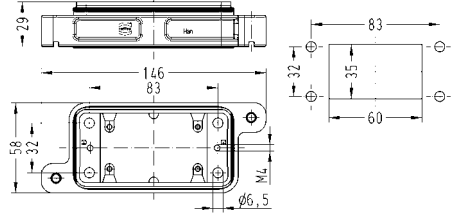

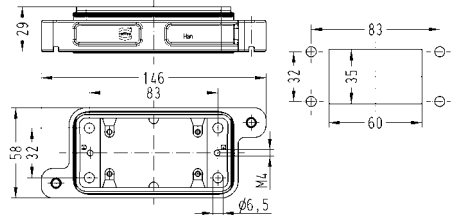

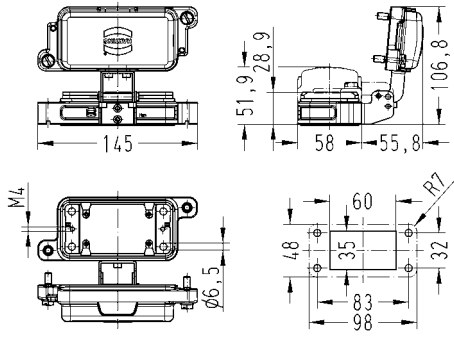
Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Bulkhead mounted housings, screw locking, with metal cover</p> 		09 40 006 0317	
<p>Han® HPR, Surface mounted housings, screw locking, horizontal version</p> <p>Han® HPR, Surface mounted housings, side entry, screw locking</p> 	<p>1xM25</p> <p>1xM20 1xM25 1xM32</p>	<p>19 40 006 0911</p> <p>19 40 006 1260 19 40 006 1261 19 40 006 1262</p>	
<p>Han® HPR, Cover for housings, metal, toggle locking</p> 		09 40 006 5401	
<p>Han® HPR, Cover for housings, metal, screw locking</p> 		09 40 006 5411	
<p>Han® HPR, Protection cover for housings, plastic</p>		09 40 006 5406	

Hoods
Housings


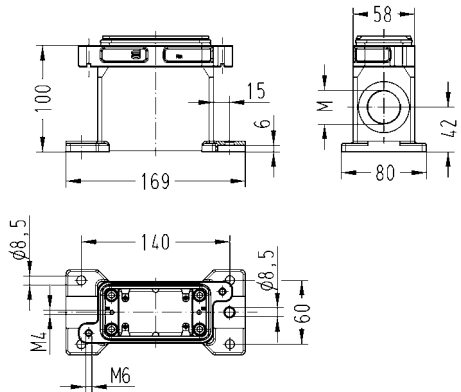

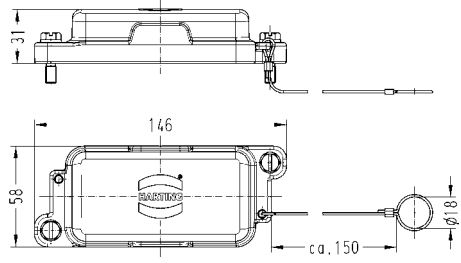




Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® HPR, Panel feed through housings, for mounting from inside, top entry, screw locking	1xM40	19 40 006 1113	
Han® HPR, Panel feed through housings, for mounting from outside, top entry, screw locking	1xM40	19 40 006 1118	
Han® HPR, Mounting frames		09 40 000 9901	

Identification	Cable entry	Part number	Drawing Dimensions in mm	
Han® HPR, Hoods, top entry, toggle locking	1xM25	19 40 010 0401		
Han® HPR, Hoods, top entry, screw locking	1xM25 1xM32 1xM40 2xM20	19 40 010 0411 19 40 010 0412 19 40 010 0413 19 40 010 0430		
Han® HPR, Hoods, side entry, toggle locking	1xM25	19 40 010 0501		
Han® HPR, Hoods, side entry, screw locking	1xM25 1xM32 1xM40	19 40 010 0511 19 40 010 0512 19 40 010 0513		


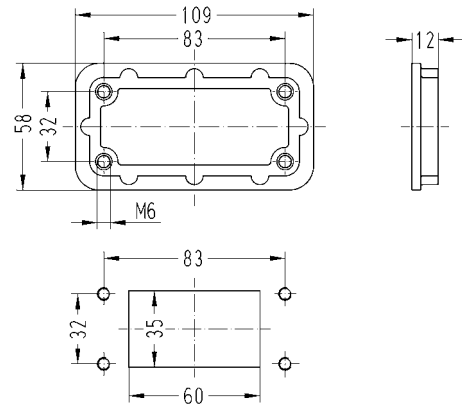
Hoods
Housings

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Hoods, without cable entry, screw locking</p> 		09 40 010 0811	 <p>Technical drawing showing front and side views of the hood. Dimensions: width 145 mm, depth 58 mm, height 100.5 mm.</p>
<p>Han® HPR, Protection cover for hoods, metal, toggle locking</p> <p>Han® HPR, Protection cover for hoods, metal, screw locking</p> 		09 40 010 5404 09 40 010 5414	 <p>Technical drawing showing side and top views of the metal protection cover. Dimensions: length 145 mm, width 58 mm, height 24.3 mm, and a circular feature with diameter 53.6 mm.</p>
<p>Han® HPR, Bulkhead mounted housings, toggle locking</p> 		09 40 010 0301	 <p>Technical drawing showing front and top views of the bulkhead mounted housing. Dimensions: length 146 mm, width 83 mm, height 29 mm, and mounting hole diameter 6.5 mm.</p>
<p>Han® HPR, Bulkhead mounted housings, screw locking</p> 		09 40 010 0311	 <p>Technical drawing showing front and top views of the bulkhead mounted housing. Dimensions: length 146 mm, width 83 mm, height 29 mm, and mounting hole diameter 6.5 mm.</p>
<p>Han® HPR, Bulkhead mounted housings, screw locking, with metal cover</p> 		09 40 010 0317	 <p>Technical drawing showing front, side, and top views of the bulkhead mounted housing with metal cover. Dimensions: length 145 mm, height 51.9 mm, depth 28.9 mm, and mounting hole diameter 6.5 mm.</p>

Hoods
Housings


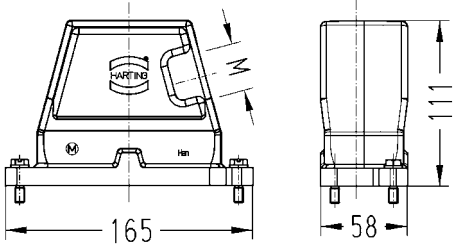

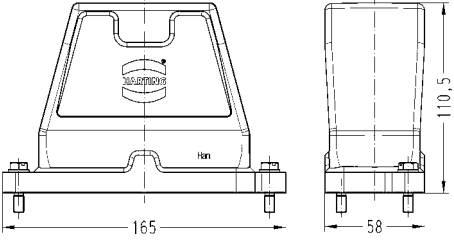

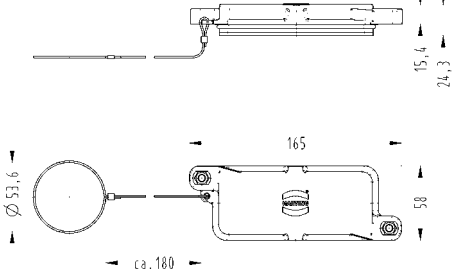

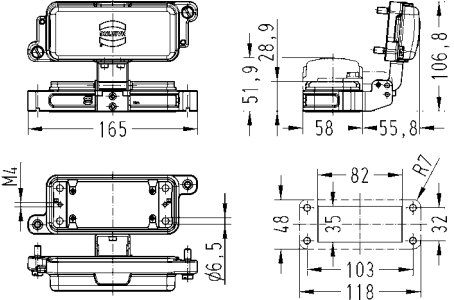

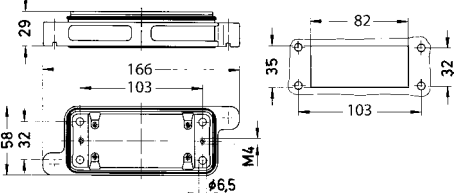
Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Surface mounted housings, side entry, screw locking</p> 	<p>1xM20 1xM32 1xM40 2xM25 2xM32</p>	<p>19 40 010 1260 19 40 010 1262 19 40 010 1263 19 40 010 1271 19 40 010 1272</p>	
<p>Han® HPR, Cover for housings, metal, toggle locking</p> 		<p>09 40 010 5401</p>	
<p>Han® HPR, Cover for housings, metal, screw locking</p> 		<p>09 40 010 5411</p>	
<p>Han® HPR, Dust protection cover, plastic</p> 		<p>09 40 010 5406</p>	
<p>Han® HPR, Panel feed through housings, for mounting from inside, screw locking</p> 	<p>1xM40</p>	<p>19 40 010 1113</p>	
<p>Han® HPR, Panel feed through housings, for mounting from outside, screw locking</p> 	<p>1xM40</p>	<p>19 40 010 1118</p>	

Hoods
Housings


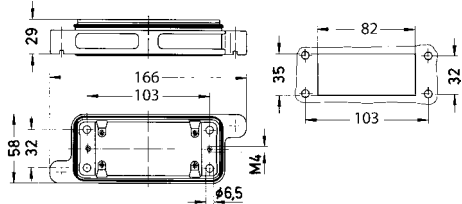


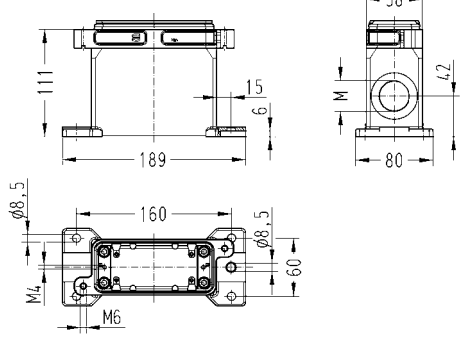


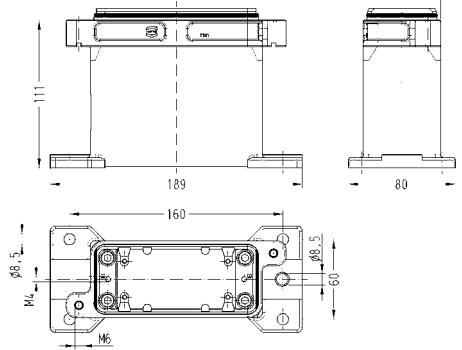
Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Mounting frames</p> 		<p>09 40 000 9902</p>	 <p>Panel cut out</p>

Identification	Cable entry	Part number	Drawing Dimensions in mm	
Han® HPR, Hoods, top entry, toggle locking	1xM32	19 40 016 0402		
Han® HPR, Hoods, top entry, screw locking	1xM25 1xM32 1xM40 1xM50 2xM25	19 40 016 0411 19 40 016 0412 19 40 016 0413 19 40 016 0414 19 40 016 0431		
Han® HPR, Hoods, side entry, toggle locking	1xM32	19 40 016 0502		


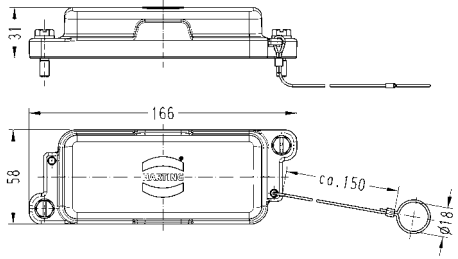

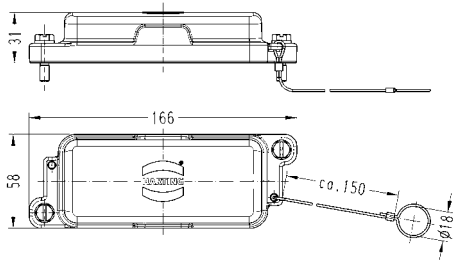



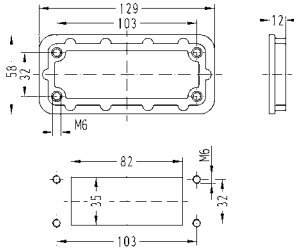
Hoods
Housings


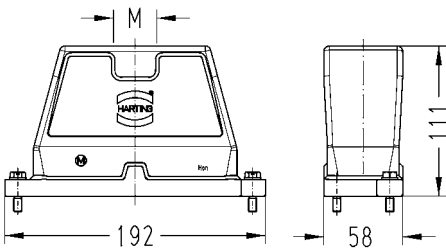
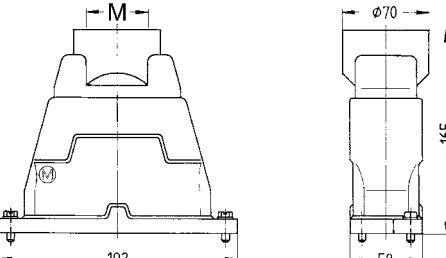

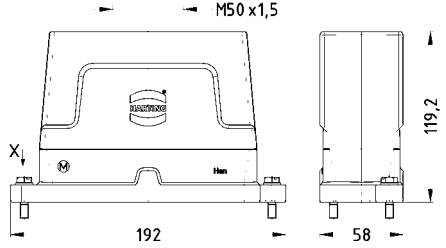
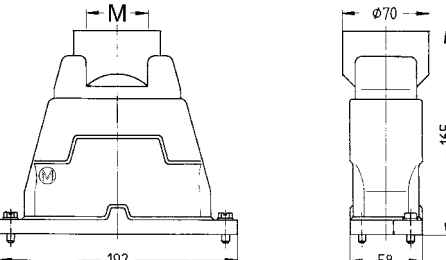
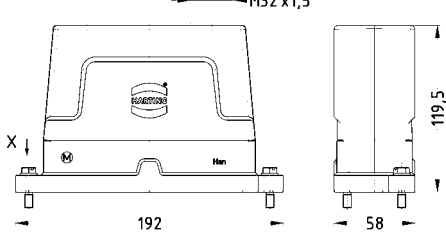
Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Hoods, side entry, screw locking</p> 	<p>1xM25 1xM32 1xM40 1xM50</p>	<p>19 40 016 0511 19 40 016 0512 19 40 016 0513 19 40 016 0514</p>	
<p>Han® HPR, Hoods, without cable entry, screw locking</p> 		<p>09 40 016 0811</p>	
<p>Han® HPR, Protection cover for hoods, metal, toggle locking</p> <p>Han® HPR, Protection cover for hoods, metal, screw locking</p> 		<p>09 40 016 5404 09 40 016 5414</p>	
<p>Han® HPR, Bulkhead mounted housings, screw locking, with metal cover, open</p> 		<p>09 40 016 0317</p>	
<p>Han® HPR, Bulkhead mounted housings, toggle locking</p> 		<p>09 40 016 0301</p>	

Hoods
Housings


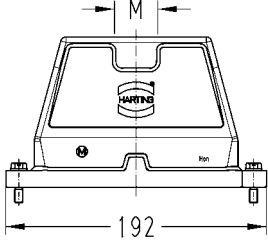
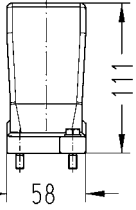

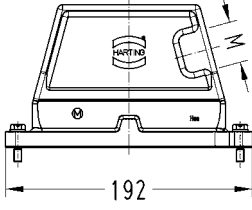
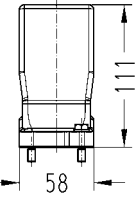

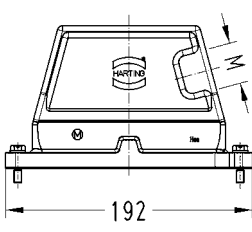
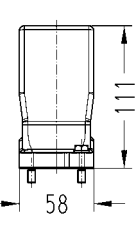

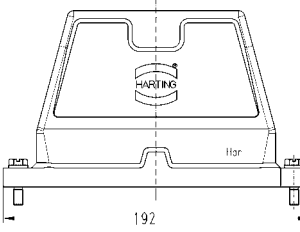
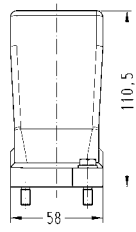
Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® HPR, Bulkhead mounted housings, screw locking 		09 40 016 0311	
Han® HPR, Surface mounted housings, screw locking, horizontal version 	1xM32	19 40 016 0912	
Han® HPR, Surface mounted housings, side entry, screw locking 	1xM25 1xM32 1xM40 2xM40	19 40 016 1261 19 40 016 1262 19 40 016 1263 19 40 016 1273	
Han® HPR, Surface mounted housings, side entry, screw locking, horizontal version 	2xM32	19 40 016 0922	
Han® HPR, Surface mounted housings, without cable entry, screw locking 		09 40 016 1201	




Hoods
Housings

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Cover for housings, metal, toggle locking</p> 		09 40 016 5401	
<p>Han® HPR, Cover for housings, metal, screw locking</p> 		09 40 016 5411	
<p>Han® HPR, Protection cover for housings, plastic</p>		09 40 016 5406	
<p>Han® HPR, Panel feed through housings, for mounting from inside, screw locking</p> 	1xM50	19 40 016 1114	
<p>Han® HPR, Panel feed through housings, for mounting from outside, screw locking</p> 	1xM50	19 40 016 1119	
<p>Han® HPR, Mounting frames, screw locking</p> 		09 40 000 9903	 <p>Panel cut out</p>


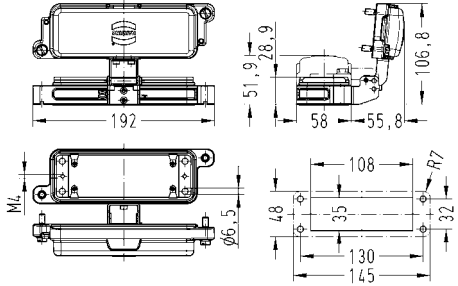

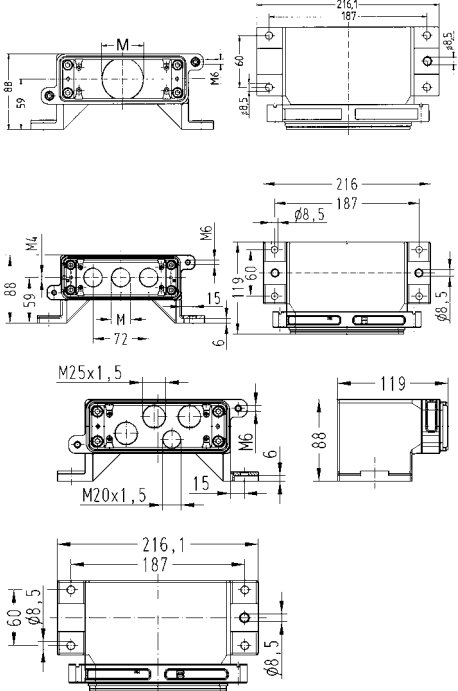
Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Hoods, top entry, toggle locking</p> 	<p>1xM32 1xM63</p>	<p>19 40 024 0402 19 40 024 0410</p>	 
<p>Han® HPR, Hoods, top entry, screw locking, high construction</p> 	<p>1xM50 1xM63 3xM32 4xM25</p>	<p>19 40 024 0419 19 40 024 0420 19 40 024 0467 19 40 024 0477</p>	  


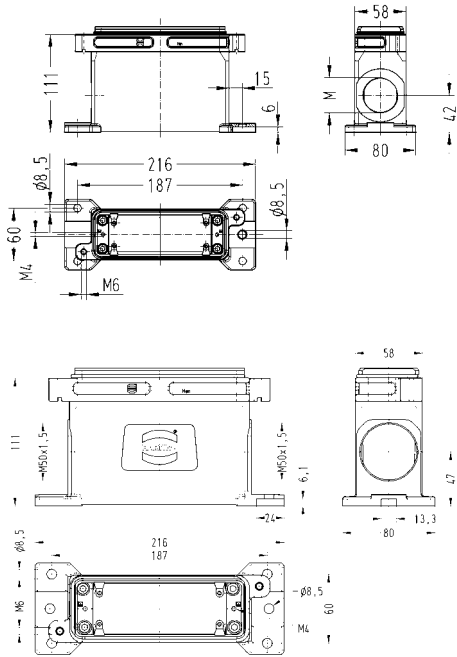

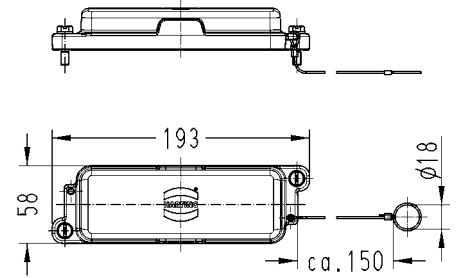

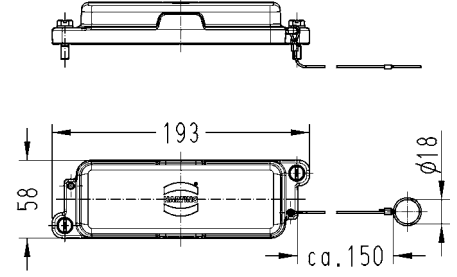

Hoods
Housings

Identification	Cable entry	Part number	Drawing Dimensions in mm	
<p>Han® HPR, Hoods, top entry, screw locking</p> 	<p>1xM32 1xM40 1xM50 2xM25 2xM32 2xM40 3xM25 3xM25, 1xM20 4xM20 4xM25</p>	<p>19 40 024 0412 19 40 024 0413 19 40 024 0414 19 40 024 0431 19 40 024 0432 19 40 024 0433 19 40 024 0461 19 40 024 0471 19 40 024 0473 19 40 024 0474</p>		
<p>Han® HPR, Hoods, side entry, toggle locking</p> 	<p>1xM40</p>	<p>19 40 024 0503</p>		
<p>Han® HPR, Hoods, side entry, screw locking</p> 	<p>1xM32 1xM40 1xM50</p>	<p>19 40 024 0512 19 40 024 0513 19 40 024 0514</p>		
<p>Han® HPR, Hoods, side entry, screw locking, high construction</p>	<p>2xM32</p>	<p>19 40 024 0537</p>		
<p>Han® HPR, Hoods, without cable entry, screw locking</p> 		<p>09 40 024 0811</p>		

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Protection cover for hoods, metal, toggle locking</p>		09 40 024 5404	
<p>Han® HPR, Protection cover for hoods, metal, screw locking</p> 		09 40 024 5414	
<p>Han® HPR, Bulkhead mounted housings, toggle locking</p> 		09 40 024 0301	
<p>Han® HPR, Bulkhead mounted housings, screw locking</p> 		09 40 024 0311	

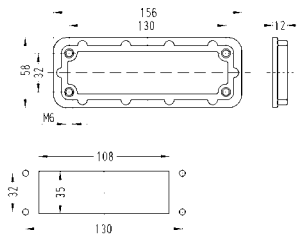
Hoods
Housings

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Bulkhead mounted housings, screw locking, with metal cover</p> 		09 40 024 0317	
<p>Han® HPR, Surface mounted housings, horizontal version, top entry, screw locking</p> 	<p>1xM50 3xM25 3xM25, 1xM20</p>	<p>19 40 024 0914 19 40 024 0931 19 40 024 0971</p>	
<p>Han® HPR, Surface mounted housings, horizontal version, screw locking</p>	3xM25	19 40 024 0941	

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han® HPR, Surface mounted housings, side entry, screw locking</p> 	<p>1xM40 2xM40 2xM50</p>	<p>19 40 024 1263 19 40 024 1273 19 40 024 1274</p>	
<p>Han® HPR, Cover for housings, metal, toggle locking</p> 		<p>09 40 024 5401</p>	
<p>Han® HPR, Cover for housings, metal, screw locking</p> 		<p>09 40 024 5411</p>	
<p>Han® HPR, Protection cover for housings, plastic</p>		<p>09 40 024 5406</p>	
<p>Han® HPR, Panel feed through housings, for mounting from inside, screw locking</p> 	<p>1xM50</p>	<p>19 40 024 1114</p>	

Hoods
Housings



Identification	Cable entry	Part number	Drawing Dimensions in mm
Han® HPR, Panel feed through housings, for mounting from outside, screw locking	1xM50	19 40 024 1119	
Han® HPR, Mounting frames		09 40 000 9904	 <p>Panel cut out</p>

Features

- Hoods/Housings for aggressive environmental requirements

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (locking lever) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP44 / IP67 is achieved with seal screw 09 20 000 9918, IP65 / IP67, IP65
Material (hoods/housings)	stainless steel
Surface (hoods/housings)	unpainted, powder-coated
Material (locking lever)	stainless steel
Material (seal)	NBR
Material (accessories)	NBR
Material (screwing)	stainless steel


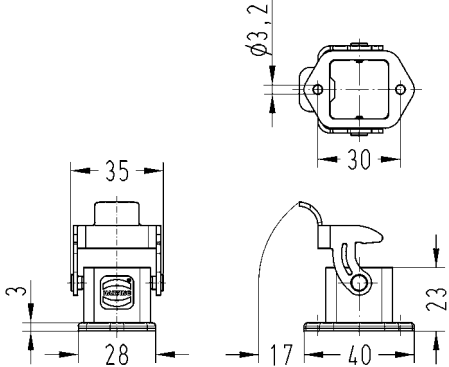

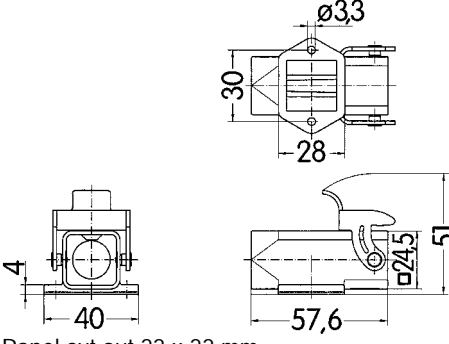

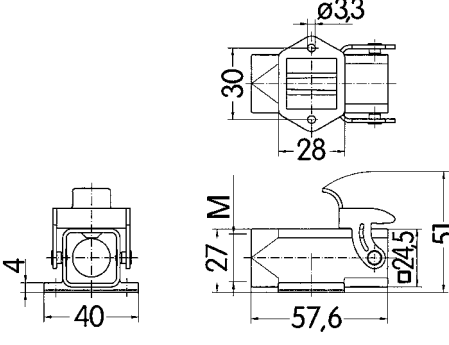

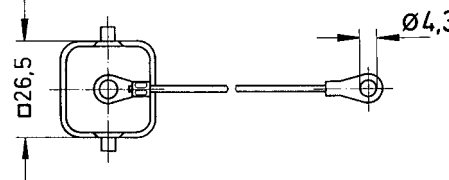
Specifications and approvals

Ⓜ


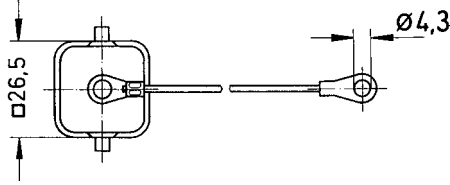

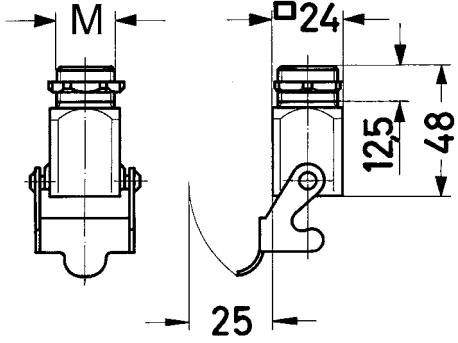
Hoods/Housings for aggressive environmental requirements
double locking lever

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-INOX®, Hoods, top entry, electrically conductive	1xM20	19 44 003 1440	
Han-INOX®, Hoods, side entry	1xM20	19 44 003 1640	
Han-INOX®, Protection cover for hoods, for mounted female insert or for mounted Han-Brid® insert, metal, with securing flex		19 44 003 5421	
Han-INOX®, Protection cover for hoods, for mounted male insert or for mounted Han-Brid® insert, metal, with securing flex		19 44 003 5422	

Hoods
Housings


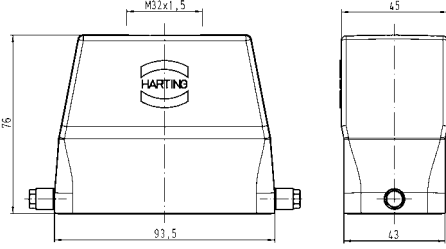

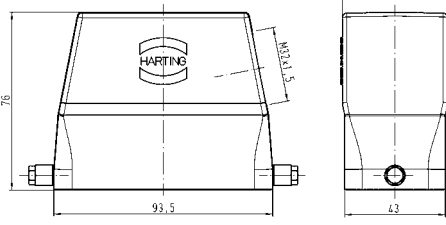


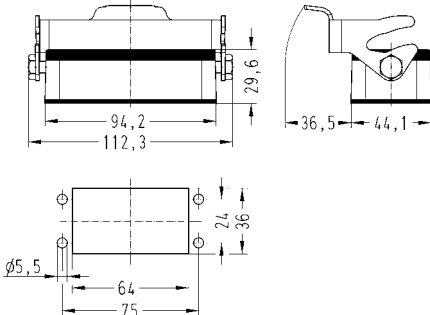
Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-INOX®, Bulkhead mounted housings, straight</p> 		19 44 003 0301	 <p>Panel cut out 22 x 22 mm</p>
<p>Han-INOX®, Bulkhead mounted housings, angled</p> 		19 44 003 0801	 <p>Panel cut out 22 x 22 mm</p>
<p>Han-INOX®, Surface mounted housings, side entry</p> 	1xM20	19 44 003 1250	
<p>Han-INOX®, Protection cover for housings, for mounted female insert or for mounted Han-Brid® insert, metal, with securing flex</p> 		19 44 003 5425	

Hoods
Housings

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Han-INOX®, Protection cover for housings, for mounted male insert or for mounted Han-Brid® insert, metal, with securing flex</p> 		19 44 003 5426	
<p>Han-INOX®, Screw mounted housings, top entry Range of delivery: 1x M20 stainless steel screw nut</p> 	1xM20	19 44 003 1150	



single locking lever

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-INOX®, Hoods, top entry 	1xM32	19 44 310 0447	
Han-INOX®, Hoods, side entry 	1xM32	19 44 310 0547	
Han-INOX®, Protection cover for hoods, metal 		19 44 310 5422	
Han-INOX®, Bulkhead mounted housings 		19 44 310 0305	 <p>Panel cut out</p>

Hoods
Housings






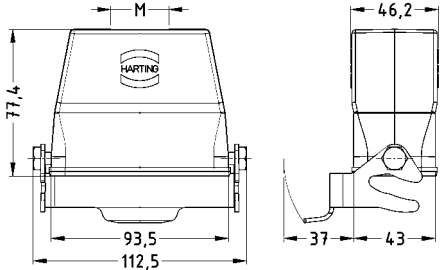

Identification	Cable entry	Part number	Drawing Dimensions in mm
Han-INOX®, Bulkhead mounted housings, with protection cover 		19 44 310 0303	
Han-INOX®, Protection cover for bulkhead mounted housings, metal 		19 44 310 5421	
Han-INOX®, Cable to cable housings, top entry 	1xM32	19 44 310 0757	
Han-INOX®, Flange gasket 		19 44 000 9902	



Photo courtesy: MAN Diesel & Turbo SE

Hoods
Housings



Contents	Page
Han D® crimp contacts.....	41.2
Han E® crimp contacts.....	41.3
Han A® screw termination.....	41.4
Han E® screw termination.....	41.6

Features

- Suitable for Han D[®] / DD[®] inserts
- Can be combined with standard crimp contacts in one connector if needed
- Iron and constantan contacts according to IEC 60584 type J
- According to EUROMAP 14, Part 1

Technical characteristics

Material (contact) iron, constantan

Specifications and approvals





IEC 61984
IEC 60664-1

Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han D [®] , Crimp contact, iron, gold plated contacts, contact resistance ≤1 mOhm 	0.14–0.37	09 15 000 6171	09 15 000 6271	 Identification acc. to IEC 60584 type J
Han D [®] , Crimp contact, constantan, not coated contacts, contact resistance ≤1 mOhm 	0.14–0.37	09 15 000 6161	09 15 000 6261	 Identification acc. to IEC 60584 type J

Thermo-couple

Features

- Suitable for Han E[®], Han[®] EE / EEE, Han[®] Q and Han A[®] inserts
- Can be combined with standard crimp contacts in one connector if needed
- Iron and constantan contacts according to IEC 60584 type J
- According to EUROMAP 14, Part 1

Technical characteristics

Material (contact) constantan, iron

Specifications and approvals


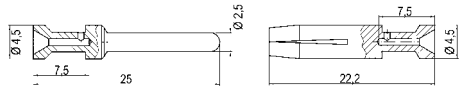

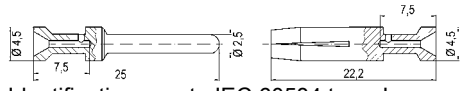
IEC 61984
IEC 60664-1

Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han E [®] , Crimp contact, constantan, not coated contacts, contact resistance ≤1 mOhm 	0.14–0.37 0.5	09 33 000 6163 09 33 000 6162	09 33 000 6263 09 33 000 6262	 <p>Identification acc. to IEC 60584 type J</p>
Han E [®] , Crimp contact, iron, gold plated contacts, contact resistance ≤1 mOhm 	0.14–0.37 0.5	09 33 000 6173 09 33 000 6172	09 33 000 6273 09 33 000 6272	 <p>Identification acc. to IEC 60584 type J</p>

Thermo-
couple

Features

- Connector for temperature measurement conductors - Suitable for injection moulding machines
- Iron and constantan contacts according to IEC 60584 type J
- According to EUROMAP 14, Part 1

Technical characteristics

Contacts	16
Electrical data acc. to IEC 61984	16 A 250 V 4 kV 3
Rated current	16 A
Rated voltage	250 V
Rated impulse voltage	4 kV
Pollution degree	3
Rated voltage acc. to UL	600 V
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Tightening torque	0.5 Nm
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals


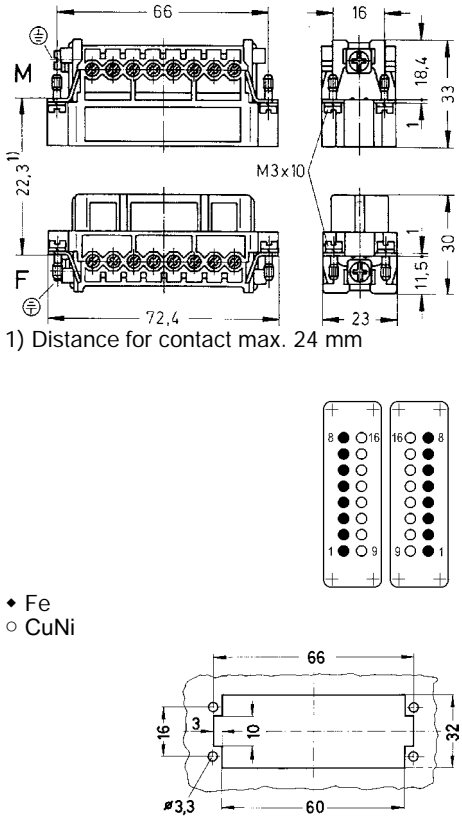
IEC 60664-1
IEC 61984



Number of contacts

16+

250 V
16 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han A®, Screw terminal 	1-2.5	09 20 016 2691	09 20 016 2891	 <p>1) Distance for contact max. 24 mm</p> <p>◆ Fe ○ CuNi</p> <p>Panel cut out for inserts for use without hoods/housings</p>

Thermo-couple

Features

- Connector for temperature measurement conductors - Suitable for injection moulding machines
- Iron and constantan contacts according to IEC 60584 type J
- According to EUROMAP 14, Part 1

Technical characteristics

Contacts	10, 16, 24
Electrical data acc. to IEC 61984	16 A 400 V 6 kV 3
Rated current	16 A
Rated voltage	400 V
Rated impulse voltage	6 kV
Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500
Tightening torque	0.5 Nm
Material (insert)	polycarbonate
Colour (insert)	RAL 7032 (light grey)

Specifications and approvals

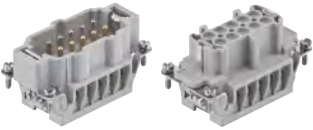
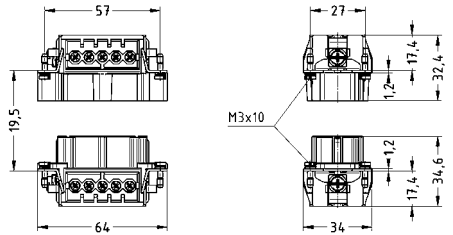
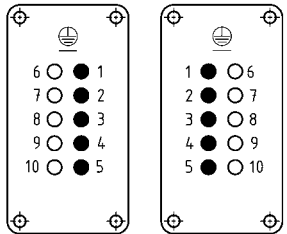
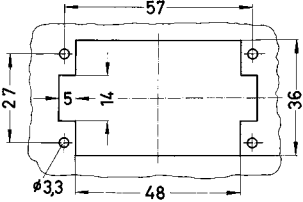
IEC 60664-1
IEC 61984



Number of contacts

10+

400 V
16 A

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm
		male	female	
Han E [®] , Screw terminal, with wire protection 	1-2.5	09 33 010 2691	09 33 010 2791	 <p>1) Distance for contact max. 21 mm</p>  <ul style="list-style-type: none"> ◆ Fe ○ CuNi  <p>Panel cut out</p>


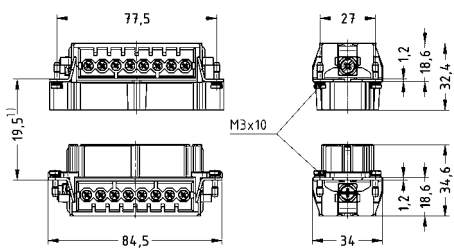
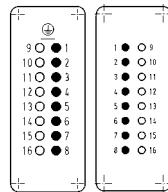
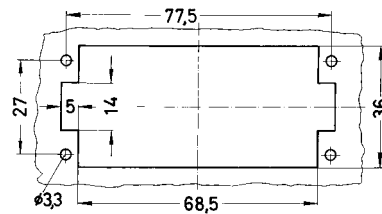
Thermo-couple



Number of contacts

16+

400 V
16 A

Identification	Wire cross section (mm ²)	Part number		Drawing
		male	female	Dimensions in mm
<p>Han E[®], Screw terminal, with wire protection</p> 	<p>1-2.5</p>	<p>09 33 016 2691</p>	<p>09 33 016 2791</p>	 <p>1) Distance for contact max. 21 mm</p>  <p>◆ Fe ○ CuNi</p>  <p>Panel cut out</p>

Thermo-
couple

Contents

Page

Modules.....

42.5

Hoods/Housings.....

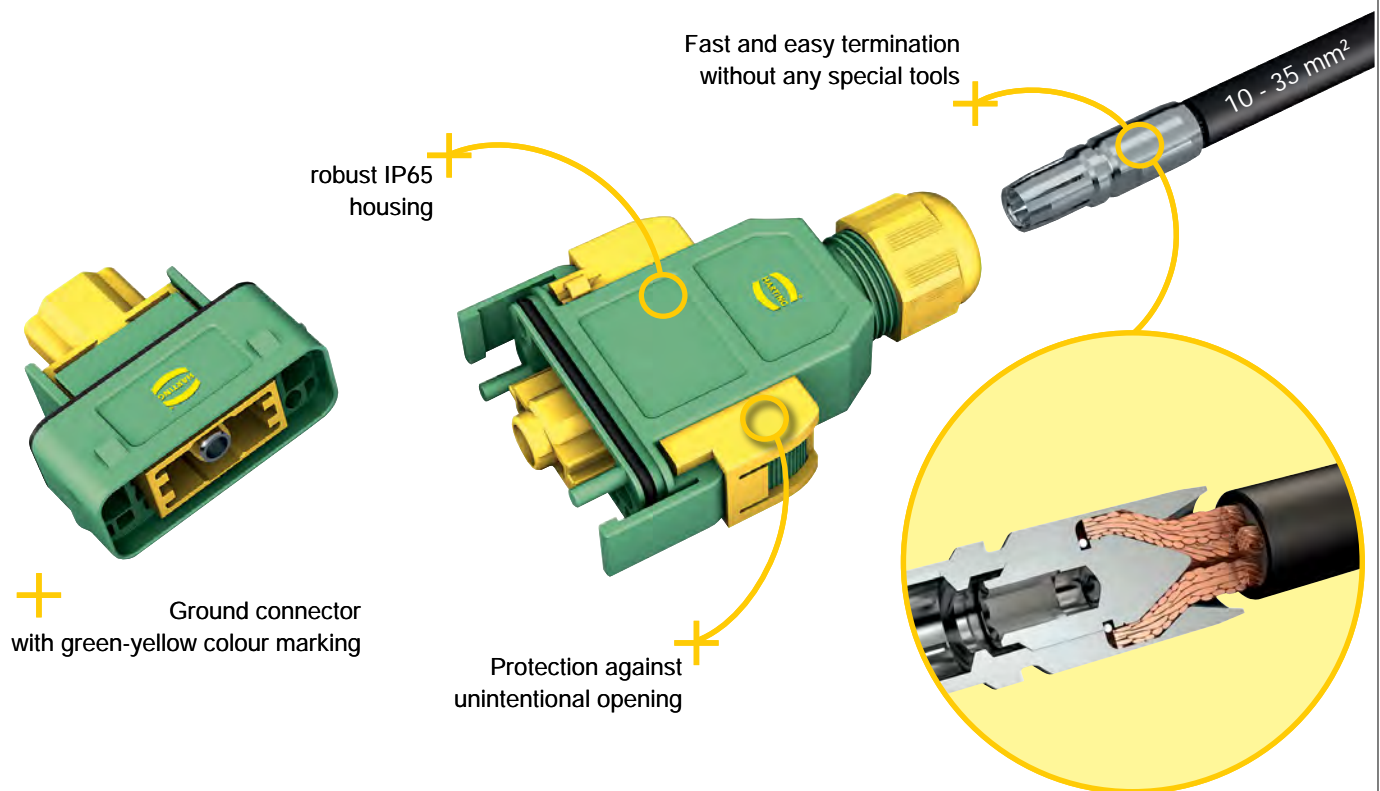
42.7

Han® GND – Mateable Potential Equalization

The new Han® GND series now enables pluggable grounding systems.

Han® GND (Han® Ground) is the innovative HARTING solution for potential equalization. The new connector series makes it possible to execute grounding systems in a pluggable design for the first time.

The use of connectors has been well-established in the electrical cabling of machines and systems for many years. The advantage is quick and error-free commissioning. Potential equalization lines are still being permanently connected, which is relatively time-consuming and can be subject to errors. HARTING's remedy: the Han® GND. The single-pole connector in the robust IP65 plastic housing is designed for stranded wires from 10 - 35 mm² and is optionally available in crimp or axial screw termination. The latter has the advantage that the lines can be connected without a special tool. A simple screwdriver is all it takes to achieve a quick and easy reliable connection. Extra connector mating security can be provided by the use of additional locking elements that prevent unintentional opening.

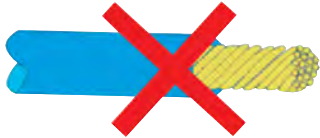


Han
GND

Assembly and construction

Assembly

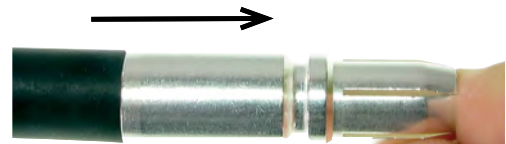
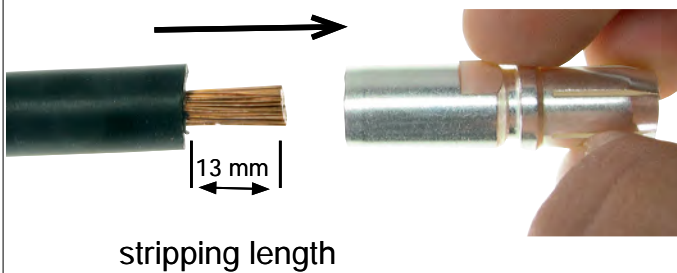
Please use fine stranded wire (Class 5) which is recommend for the axial screw termination.



Do not twist the stripped wire!

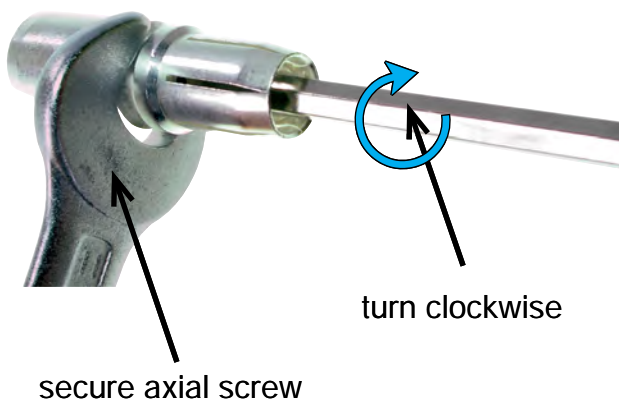
1.

Please strip the wire. All suitable wire gauges have to be stripped with a length of 13 mm (acc. to Class 5). Insert stripped wire into the terminal and push fully inside. Pay attention that all fine stranded wires are inserted in the contact chamber.

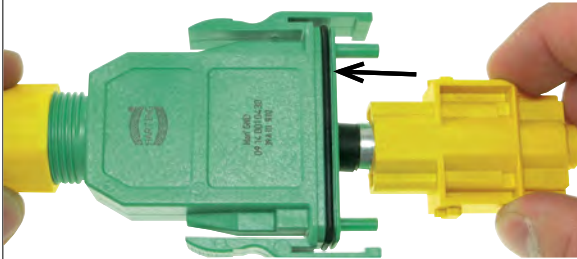


2.

Please insert suitable torque key (SW 4) into the contact from mating side and turn the axial screw clockwise. For that purpose secure the axial screw with a spanner (SW 11). Tighten the screw to the specified torque value.



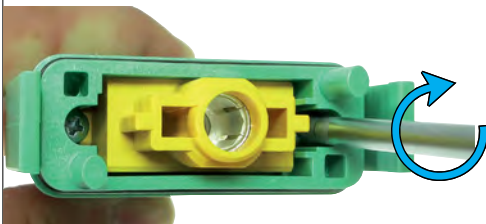
Assembly and construction



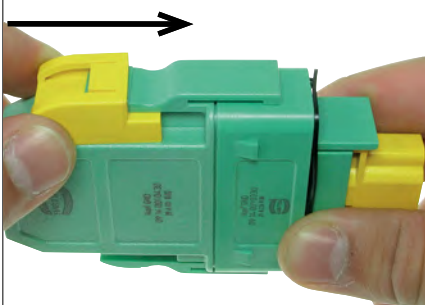
3. Insert the installed cable through the cable gland into the Han® GND housing! Push the axial screw contact into the module until you hear an audible click, which is the indicator that the contact snaps into position.



4. Push the module back into the housing and turn the cable gland clockwise.

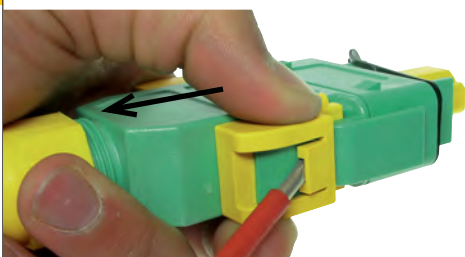


5. Mount the module in the housing with the enclosed screws.



Protection against unintentional opening (option)

1. Push the unlocking protection over the opening latches to prevent an unintentional opening (the connector can only be unmated with a separate tool).



2. The removal of the unlocking protection can be done with a screwdriver for slotted screws (e.g. size 0.8 x 4.0). Insert the screwdriver in the unlocking protection slot and release the plastic latch until you are able to remove the unlocking protection with your fingers.

Features

- First connector for potential equalization
- Slim, space saving design
- Low cost plastic hoods and housings
- Colours: green and yellow
- Crimp or axial screw termination available

Technical characteristics

Contacts	1
Insulation resistance	$\geq 10^{10}$ Ohm
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥ 500
Material (insert)	polycarbonate
Colour (insert)	yellow
Material (contact)	copper alloy
Hex key	SW 4

Specifications and approvals

IEC 60664-1
IEC 61984

Details

Crimping tools see chapter 90

Remarks on the axial screw technique


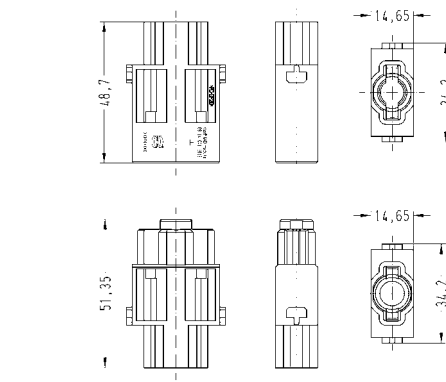

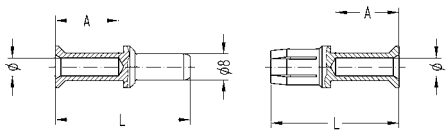

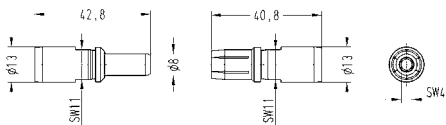
The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Number of contacts

1

Identification	Wire cross section (mm ²)	Part number		Drawing Dimensions in mm															
		male	female																
Han® GND, Han® GND module  Please order contacts separately.		09 14 001 3032	09 14 001 3132																
Crimp contact, TC 100, silver plated contacts, contact resistance ≤0.3 mOhm 	10 16 25 35	09 11 000 6114 09 11 000 6116 09 11 000 6125 09 11 000 6135	09 11 000 6214 09 11 000 6216 09 11 000 6225 09 11 000 6235	 <table border="1"> <thead> <tr> <th>Wire gauge</th> <th>Ø</th> <th>Stripping length A</th> </tr> </thead> <tbody> <tr> <td>10 mm²</td> <td>4.3</td> <td>19 mm</td> </tr> <tr> <td>16 mm²</td> <td>5.5</td> <td>19 mm</td> </tr> <tr> <td>25 mm²</td> <td>7</td> <td>19 mm</td> </tr> <tr> <td>35 mm²</td> <td>8.2</td> <td>16 mm</td> </tr> </tbody> </table> <p>for stranded wire according to IEC 60 228 Class 5</p>	Wire gauge	Ø	Stripping length A	10 mm ²	4.3	19 mm	16 mm ²	5.5	19 mm	25 mm ²	7	19 mm	35 mm ²	8.2	16 mm
Wire gauge	Ø	Stripping length A																	
10 mm ²	4.3	19 mm																	
16 mm ²	5.5	19 mm																	
25 mm ²	7	19 mm																	
35 mm ²	8.2	16 mm																	
Axial screw contact, silver plated contacts, contact resistance ≤0.3 mOhm 	10 – 25 16 – 35	09 11 000 6112 09 11 000 6113	09 11 000 6212 09 11 000 6213	 Stripping length 13 mm Tightening torque <table border="1"> <thead> <tr> <th>mm²</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> </tr> </thead> <tbody> <tr> <td>Nm</td> <td>6</td> <td>6</td> <td>7</td> <td>8</td> </tr> </tbody> </table>	mm ²	10	16	25	35	Nm	6	6	7	8					
mm ²	10	16	25	35															
Nm	6	6	7	8															

Han
GND

Features


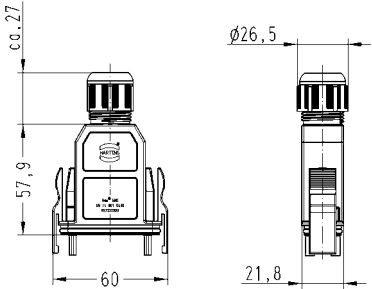

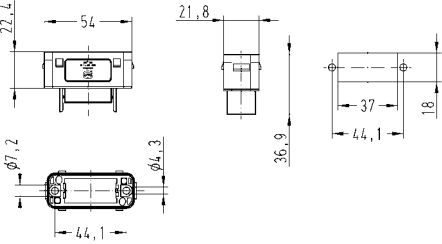

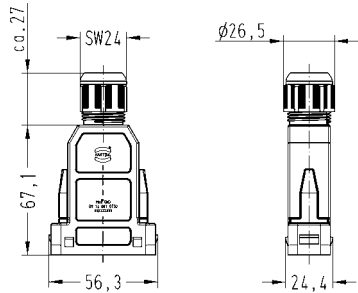

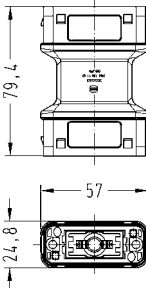
- First connector for potential equalization
- Slim, space saving design
- Low cost plastic hoods and housings
- Colours: green and yellow

Technical characteristics


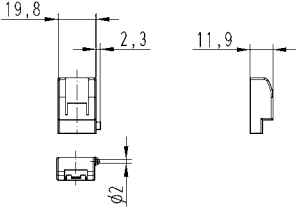
Limiting temperatures	-40 °C ... 85 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Mating cycles	≥500
Degree of protection acc. to IEC 60529	IP65
Material (hoods/housings)	polycarbonate
Colour (hoods/housings)	green
Colour (locking lever)	yellow
Material (seal)	NBR
Material (screwing)	polyamide

Specifications and approvals

IEC 60664-1
IEC 61984

Identification	Clamping range (mm)	Part number	Drawing Dimensions in mm
Han® GND, Hoods, top entry 	7.5 ... 14	09 14 001 0430	
Han® GND, Bulkhead mounted housings 		09 14 001 0330	
Han® GND, Cable to cable housings, top entry 	7.5 ... 14	09 14 001 0730	
Han® GND, Adapter, male / male 		09 14 001 9901	

Han
GND

Identification	Clamping range (mm)	Part number	Drawing Dimensions in mm
Han® GND, Unlocking protection 		09 14 000 9938	

Contents	Page
D-Sub adapter	80.2
Locking levers.....	80.7
Seals.....	80.8
Han® Hood Link	80.10
Panel feed through housings.....	80.11
Accessories for flat cable.....	80.14
Cable glands.....	80.15
Shielding frame.....	80.20
Grip frames.....	80.22
Coding of inserts in hoods/housings.....	80.24
Han® Docking frame	80.27
PE Multiple ground connection.....	80.28
Straight cable clamp fitting	80.29
Special insert fixing screws	80.30
Screws.....	80.31
Bearing pedestal and covers	80.33
Further accessories.....	80.34

Number of contacts

9,15,25,37



Technical characteristics

Contacts	15, 25, 9, 37
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500

Technical characteristics

Material (accessories) plastic, metal

Details

only for standard D-Sub, not for HD D-Sub

Identification	Size	Part number	Drawing Dimensions in mm
Adapter, for 1 x D-Sub, plastic Range of delivery: 1 adapter, 4 fixing screws for adapter, 2 fixing screws for D-Sub connector	9 15 25	09 20 000 9932 09 20 000 9928 09 20 000 9929	<p>D-Sub 15 c= 33.3 mm D-Sub 25 c= 47 mm</p>
Adapter, for 1 x D-Sub, metal Range of delivery: two-piece adapter, 2 fixing screws for adapter, 2 fixing screws for D-Sub connector size 25 in the Han 10 A size 37 in the Han 16 A	25 37	09 20 000 9925	<p>D-Sub 9</p>

Number of contacts

25,37,50



Technical characteristics

Contacts	50, 25, 37
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Mating cycles	≥500

Technical characteristics

Material (accessories) plastic, metal

Details

only for standard D-Sub, not for HD D-Sub

Identification	Size	Part number	Drawing Dimensions in mm
Adapter, for 1 x D-Sub Range of delivery: 1 adapter, 4 fixing screws for adapter, 2 fixing screws for D-Sub connector	50	09 20 000 9931	
Adapter, for 1 x D-Sub, metal Range of delivery: two-piece adapter, 2 fixing screws for adapter, 2 fixing screws for D-Sub connector size 25 in the Han 10 A size 37 in the Han 16 A	25 37	09 20 000 9925	

Accessories

Number of contacts

9,15



Technical characteristics

Contacts	9, 15
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Material (accessories)	plastic

Details

only for standard D-Sub, not for HD D-Sub

Identification	Size	Part number	Drawing Dimensions in mm
Adapter, for 1 x D-Sub Range of delivery: 1 adapter, 4 fixing screws for adapter, 2 fixing screws for D-Sub connector	9 15	09 30 000 9965 09 30 000 9966	<p>① Mounting in housing: character A visible ② Mounting in hood: character T visible D-Sub 9: a=44; b=51.5; c=25 D-Sub 15: a=44; b=51.5; c=33.3</p>
Adapter, for 2 x D-Sub Range of delivery: 1 adapter, 4 fixing screws for adapter, 4 fixing screws for D-Sub connector	9 15	09 30 000 9970 09 30 000 9971	<p>① Mounting in housing: character A visible ② Mounting in hood: character T visible D-Sub 2x 9: a=44; b=51.5; c=25 D-Sub 2x 15: a=44; b=51.5; c=33.3</p>

Accessories

Number of contacts

25



Technical characteristics

Contacts	25
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Material (accessories)	plastic

Details

only for standard D-Sub, not for HD D-Sub

Identification	Size	Part number	Drawing Dimensions in mm
Adapter, for 1 x D-Sub Range of delivery: 1 adapter, 4 fixing screws for adapter, 2 fixing screws for D-Sub connector	25	09 30 000 9967	<p>① Mounting in housing: character A visible ② Mounting in hood: character T visible D-Sub 25: a=57; b=64.5; c=47</p>
Adapter, for 2 x D-Sub Range of delivery: 1 adapter, 4 fixing screws for adapter, 4 fixing screws for D-Sub connector	25	09 30 000 9972	<p>① Mounting in housing: character A visible ② Mounting in hood: character T visible D-Sub 2x 25: a=57; b=64.5; c=47</p>

Number of contacts

37,50



Technical characteristics

Contacts	37, 50
Limiting temperatures	-40 °C ... 125 °C
Flammability (insert) acc. to UL 94	V 0
Material (accessories)	plastic

Details

only for standard D-Sub, not for HD D-Sub

Identification	Size	Part number	Drawing Dimensions in mm
Adapter, for 1 x D-Sub Range of delivery: 1 adapter, 4 fixing screws for adapter, 2 fixing screws for D-Sub connector	37 50	09 30 000 9968 09 30 000 9969	<p>① Mounting in housing: character A visible ② Mounting in hood: character T visible D-Sub 37: a=77.5; b=85; c=63.5 D-Sub 50: a=77.5; b=85; c=61.1</p>
Adapter, for 2 x D-Sub Range of delivery: 1 adapter, 4 fixing screws for adapter, 4 fixing screws for D-Sub connector	37 50	09 30 000 9973 09 30 000 9974	<p>① Mounting in housing: character A visible ② Mounting in hood: character T visible D-Sub 2x 37: a=77.5; b=85; c=63.5 D-Sub 2x 50: a=77.5; b=85; c=61.1</p>

Accessories

Technical characteristics

Material (accessories) plastic, polycarbonate + stainless steel

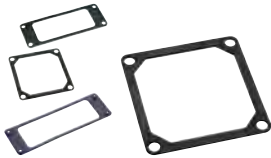
Technical characteristics

Colour (accessories) RAL 7032 (light grey), black, grey

Identification	Size	Part number	Drawing Dimensions in mm
Locking lever, double locking lever, light grey	3 A	09 00 000 5241	
Locking lever, double locking lever, black	3 A	09 00 000 5242	
Locking lever, single locking lever, Han® Q 8/0, black		09 00 000 5244	
Locking lever, single locking lever, black	10/16/24 B 6 B	09 00 000 5246 09 00 000 5401	
Han-Easy Lock®, Locking lever, single locking lever, grey	6 B 10 A 16 A 10 B 16 B 24 B	09 00 000 5222 09 00 000 5224 09 00 000 5225 09 00 000 5228 09 00 000 5229 09 00 000 5230	
Han-Easy Lock®, Locking lever, double locking lever, grey	10/16/24 B 32 A 32 B	09 00 000 5221 09 00 000 5223 09 00 000 5231	




Technical characteristics

Material (accessories) NBR, FPM

Identification	Size	Part number	Drawing Dimensions in mm	
Flange gasket 	Modular Compact	09 14 000 9940		
	3 A	09 20 000 9991		
	10 A	09 20 000 9992		
	16 A	09 20 000 9993		
	32 A	09 20 000 9994		
	3 HPR	09 40 000 9980		
	Han-Drive®	09 30 000 9903		
	6 B	09 30 000 9801		
	10 B	09 30 000 9802		
	16 B	09 30 000 9803		
	24 B	09 30 000 9804		
	48 HPR	09 30 000 9996		
	Flange gasket, FPM	3 A	09 37 000 9912	
		6 B	09 37 000 9946	
		10 B	09 37 000 9947	
16 B		09 37 000 9948		
24 B		09 37 000 9949		

Technical characteristics

Material (accessories) NBR, FPM


Identification	Size	Part number	Drawing Dimensions in mm
Han® HPR, O-ring-seal 	3 HPR	09 40 000 9910	
	6 HPR	09 40 000 9911	
	10 HPR	09 40 000 9912	
	16 HPR	09 40 000 9913	
	24 HPR	09 40 000 9914	
L-seal, for cable to cable housings 	24 B	09 30 000 9933	
	16 B	09 30 000 9934	
	10 B	09 30 000 9935	
	6 B	09 30 000 9936	
Profile gasket 	10 A	09 20 000 9996	
	16 A	09 20 000 9997	
	6 B	09 30 000 9941	
	10 B	09 30 000 9942	
	16 B	09 30 000 9943	
	24 B	09 30 000 9944	
	32 B	09 30 000 9963	
	48 B	09 30 000 9995	
	3 A	09 70 000 9991	
Profile gasket, FPM	3 A	09 21 000 9906	

Features

- Cable to cable connection simple to realize and easy to mount
- Resistant elastomer
- Locking as well as seal combined in one system
- For two lever locking system

Technical characteristics

Limiting temperatures -40 °C ... 85 °C
 Degree of protection acc. to IEC 60529 IP65 in locked position
 Colour (hoods/housings) black

Identification	Size	Part number	Drawing Dimensions in mm
Locking element, for hoods 	16 B	09 30 016 9901	

double locking lever


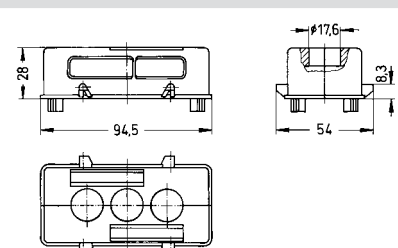
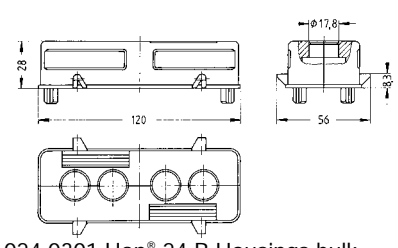



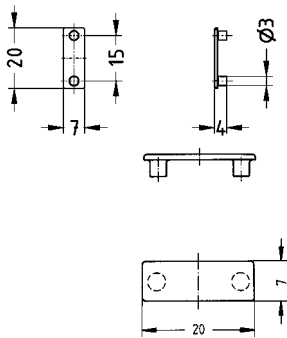
Features

- Allows the entry of pre-assembled cables into a switch cabinet
- Use of identification strips is possible
- No special tools required
- Standard screw driver (5 x 1 mm) necessary to open split hood
- IP54 due to continuous contoured sealing

Technical characteristics

Limiting temperatures	-40 °C ... 125 °C
Flammability (hoods/housings) acc. to UL 94	V 0
Locking cycles of bulkhead mounted housings	≥50
Locking cycles of split hood halves	≥10
Flammability (locking lever) acc. to UL 94	V 0
Protection class acc. to UL 50	NEMA type 4/4X/12
Degree of protection acc. to IEC 60529	IP54 when mounted vertically in the longitudinal direction, IP65
Material (hoods/housings)	polycarbonate
Material (locking lever)	polycarbonate + stainless steel
Colour (locking lever)	RAL 7037 (grey)

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Panel feed through housings, Han-Easy Lock®</p> <p>Range of delivery: 2 split hood halves</p>  <p>Please order cable entry glands separately.</p>	<p>3</p> <p>4</p>	<p>09 30 016 0408</p> <p>09 30 024 0408</p>	 <p>09 30 016 0301 Han® 16 B Housings bulk-head mounting see chapter 31</p>  <p>09 30 024 0301 Han® 24 B Housings bulk-head mounting see chapter 31</p>

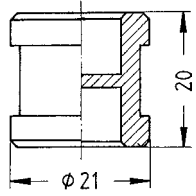
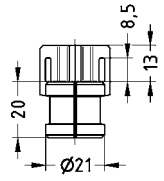

Identification	Cable entry	Part number	Drawing Dimensions in mm
<p>Identification strip Range of delivery: single</p> 		09 33 000 9981	


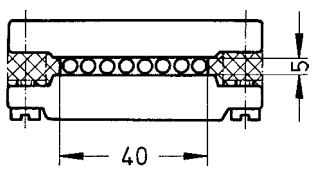

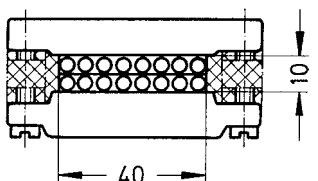

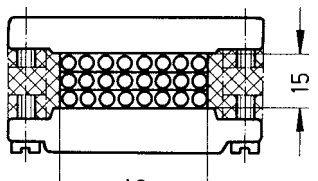

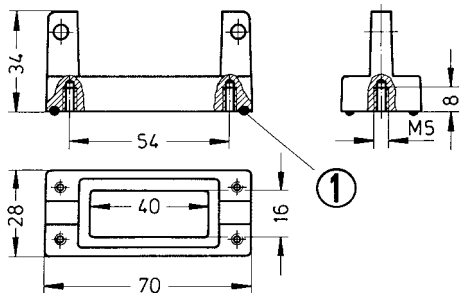
Technical characteristics

Limiting temperatures -40 °C ... 125 °C

Technical characteristics

Material (accessories) plastic, thermoplastic rubber
 Colour (accessories) black

Identification	Clamping range (mm)	Part number	Drawing Dimensions in mm
Blind grommet		09 00 000 5350	
Cable entry gland, for ASI cable		09 00 000 5364	
Cable entry gland, additional strain relief can be provided by cable ties (max. width 8 mm)	10 ... 11 11 ... 12 12 ... 13 13 ... 14 14 ... 15 15 ... 16	09 00 000 5358 09 00 000 5359 09 00 000 5360 09 00 000 5361 09 00 000 5362 09 00 000 5363	
Cable entry gland	3 ... 4 4 ... 5 5 ... 6 6 ... 7 7 ... 8 8 ... 9 9 ... 10	09 00 000 5351 09 00 000 5352 09 00 000 5353 09 00 000 5354 09 00 000 5355 09 00 000 5356 09 00 000 5357	


Identification	Part number	Drawing Dimensions in mm
<p>Set of seals, with strain relief clamp, for 1 flat cable</p> 	09 00 000 5315	
<p>Set of seals, with strain relief clamp, for 2 flat cables</p> 	09 00 000 5316	
<p>Set of seals, with strain relief clamp, for 3 flat cables</p> 	09 00 000 5317	
<p>Bracket for flat cable, for separate mounting</p> 	09 00 000 5325	 <p>① O-Ring seal</p>

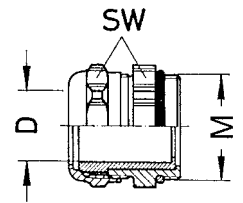
Technical characteristics

Tightening torque	5 Nm
	4.5 Nm
	6.5 Nm
	10 Nm

Technical characteristics

Degree of protection acc. to IEC	IP68
60529	
Colour (accessories)	RAL 7032 (light grey)
Material (screwing)	thermoplastic

Identification	Clamping range (mm)	Size	Part number	Drawing																																								
				Dimensions in mm																																								
Cable gland 	5 ... 9	M20	19 00 000 5180	<table border="1"> <thead> <tr> <th>Outer cable \varnothing</th> <th>SW</th> <th>E</th> <th>Nm</th> </tr> </thead> <tbody> <tr> <td>5 ... 9 mm</td> <td>24</td> <td>26.4</td> <td>4.5</td> </tr> <tr> <td>6 ... 12 mm</td> <td>24</td> <td>26.4</td> <td>4.5</td> </tr> <tr> <td>10 ... 14 mm</td> <td>27</td> <td>29.8</td> <td>4.5</td> </tr> <tr> <td>9 ... 16 mm</td> <td>33</td> <td>33.5</td> <td>5</td> </tr> <tr> <td>13 ... 18 mm</td> <td>33</td> <td>36.5</td> <td>5</td> </tr> <tr> <td>13 ... 20 mm</td> <td>42</td> <td>46.8</td> <td>6.5</td> </tr> <tr> <td>18 ... 25 mm</td> <td>42</td> <td>46.8</td> <td>6.5</td> </tr> <tr> <td>20 ... 26 mm</td> <td>53</td> <td>58.8</td> <td>10</td> </tr> <tr> <td>22 ... 32 mm</td> <td>53</td> <td>58.8</td> <td>10</td> </tr> </tbody> </table>	Outer cable \varnothing	SW	E	Nm	5 ... 9 mm	24	26.4	4.5	6 ... 12 mm	24	26.4	4.5	10 ... 14 mm	27	29.8	4.5	9 ... 16 mm	33	33.5	5	13 ... 18 mm	33	36.5	5	13 ... 20 mm	42	46.8	6.5	18 ... 25 mm	42	46.8	6.5	20 ... 26 mm	53	58.8	10	22 ... 32 mm	53	58.8	10
	Outer cable \varnothing	SW	E		Nm																																							
	5 ... 9 mm	24	26.4		4.5																																							
	6 ... 12 mm	24	26.4		4.5																																							
	10 ... 14 mm	27	29.8		4.5																																							
	9 ... 16 mm	33	33.5		5																																							
	13 ... 18 mm	33	36.5		5																																							
	13 ... 20 mm	42	46.8		6.5																																							
	18 ... 25 mm	42	46.8		6.5																																							
	20 ... 26 mm	53	58.8		10																																							
	22 ... 32 mm	53	58.8		10																																							
	6 ... 12	M20	19 00 000 5182																																									
	10 ... 14	M20	19 00 000 5184																																									
	9 ... 16	M25	19 00 000 5190																																									
13 ... 18	M25	19 00 000 5192																																										
13 ... 20	M32	19 00 000 5194																																										
18 ... 25	M32	19 00 000 5196																																										
20 ... 26	M40	19 00 000 5197																																										
22 ... 32	M40	19 00 000 5198																																										



Technical characteristics

Tightening torque	10 Nm
	12 Nm
	15 Nm
	24 Nm

Technical characteristics

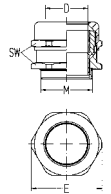
Degree of protection acc. to IEC IP68
60529
Material (screwing) metal

Identification	Clamping range (mm)	Size	Part number	Drawing Dimensions in mm
----------------	---------------------	------	-------------	--------------------------

Cable gland, metal



5 ... 9	M20	19 00 000 5080
5 ... 12	M20	19 00 000 5081
6 ... 12	M20	19 00 000 5082
10 ... 14	M20	19 00 000 5084
9 ... 16	M25	19 00 000 5090
9 ... 18	M25	19 00 000 5091
13 ... 18	M25	19 00 000 5092
13 ... 20	M32	19 00 000 5094
13 ... 25	M32	19 00 000 5095
18 ... 25	M32	19 00 000 5096
20 ... 26	M40	19 00 000 5097
22 ... 32	M40	19 00 000 5098
20 ... 32	M40	19 00 000 5099
32 ... 38	M50	19 00 000 5086



Outer cable Ø	SW	E	Nm
5 ... 9 mm	22	24.4	10
5 ... 12 mm	22	24.4	10
6 ... 12 mm	22	24.4	10
10 ... 14 mm	24	26.4	10
9 ... 16 mm	30	33.5	12
9 ... 18 mm	30	33.5	12
13 ... 18 mm	30	33.5	12
13 ... 20 mm	40	44	15
13 ... 25 mm	40	44	15
18 ... 25 mm	40	44	15
20 ... 26 mm	50	55	15
22 ... 32 mm	50	55	15
20 ... 32 mm	50	55	15
32 ... 38 mm	57	60	24



Technical characteristics

Degree of protection acc. to IEC IP68
60529

Technical characteristics

Material (screwing) metal


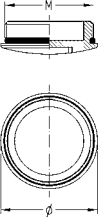

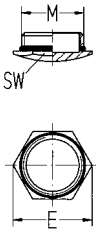


Identification	Clamping range (mm)	Size	Part number	Drawing Dimensions in mm																																												
EMC clamp	6.5 ... 9.5	M20	19 62 000 5080	<table border="1"> <thead> <tr> <th> cable-Ø D </th> <th> SW </th> <th> E </th> <th> shield-Ø B </th> </tr> </thead> <tbody> <tr> <td>6.5 ... 9.5</td> <td>22</td> <td>24.4</td> <td>3,5 ... 8,5</td> </tr> <tr> <td>4 ... 6.5</td> <td>22</td> <td>24.4</td> <td>2,5 ... 6,5</td> </tr> <tr> <td>7 ... 10.5</td> <td>22</td> <td>24.4</td> <td>6,5 ... 10,5</td> </tr> <tr> <td>9 ... 13</td> <td>22</td> <td>24.4</td> <td>6,5 ... 10,5</td> </tr> <tr> <td>6.5 ... 9.5</td> <td>22</td> <td>31.2</td> <td>3 ... 8</td> </tr> <tr> <td>9 ... 13</td> <td>28</td> <td>31.2</td> <td>4,8 ... 8</td> </tr> <tr> <td>11.5 ... 15.5</td> <td>35</td> <td>38.5</td> <td>8 ... 13,5</td> </tr> <tr> <td>14 ... 18</td> <td>35</td> <td>38.5</td> <td>9 ... 14,5</td> </tr> <tr> <td>17 ... 20.5</td> <td>43</td> <td>47.3</td> <td>15 ... 20</td> </tr> <tr> <td>20 ... 25</td> <td>43</td> <td>47.3</td> <td>15 ... 20</td> </tr> </tbody> </table>	cable-Ø D	SW	E	shield-Ø B	6.5 ... 9.5	22	24.4	3,5 ... 8,5	4 ... 6.5	22	24.4	2,5 ... 6,5	7 ... 10.5	22	24.4	6,5 ... 10,5	9 ... 13	22	24.4	6,5 ... 10,5	6.5 ... 9.5	22	31.2	3 ... 8	9 ... 13	28	31.2	4,8 ... 8	11.5 ... 15.5	35	38.5	8 ... 13,5	14 ... 18	35	38.5	9 ... 14,5	17 ... 20.5	43	47.3	15 ... 20	20 ... 25	43	47.3	15 ... 20
	cable-Ø D	SW	E		shield-Ø B																																											
	6.5 ... 9.5	22	24.4		3,5 ... 8,5																																											
	4 ... 6.5	22	24.4		2,5 ... 6,5																																											
	7 ... 10.5	22	24.4		6,5 ... 10,5																																											
	9 ... 13	22	24.4		6,5 ... 10,5																																											
	6.5 ... 9.5	22	31.2		3 ... 8																																											
	9 ... 13	28	31.2		4,8 ... 8																																											
	11.5 ... 15.5	35	38.5		8 ... 13,5																																											
	14 ... 18	35	38.5		9 ... 14,5																																											
	17 ... 20.5	43	47.3		15 ... 20																																											
	20 ... 25	43	47.3		15 ... 20																																											
	7 ... 10.5	M20	19 62 000 5082																																													
9 ... 13	M20	19 62 000 5084																																														
4 ... 6.5	M20	19 62 000 5081																																														
6.5 ... 9.5	M25	19 62 000 5090																																														
9 ... 13	M25	19 62 000 5092																																														
11.5 ... 15.5	M32	19 62 000 5094																																														
14 ... 18	M32	19 62 000 5096																																														
17 ... 20.5	M40	19 62 000 5097																																														
20 ... 25	M40	19 62 000 5098																																														

Technical characteristics


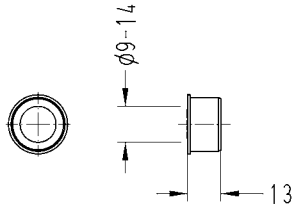

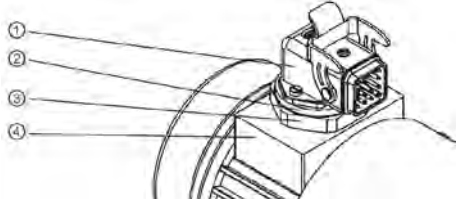
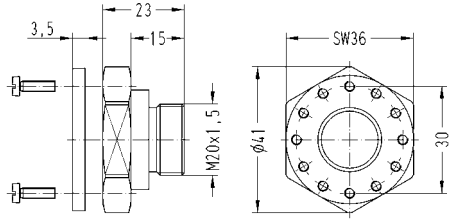
Limiting temperatures -40 °C ... 125 °C
 Flammability (insert) acc. to UL 94 V 0

Technical characteristics

Degree of protection acc. to IEC 60529 IP68
 Material (accessories) plastic
 Colour (accessories) black
 Material (screwing) thermoplastic, metal

Identification	Size	Reducers	Part number	Drawing Dimensions in mm
Blind grommet, plastic 	M32 M40		19 00 000 5172 19 00 000 5173	 M32: Ø 35 mm M40: Ø 46.2 mm
Blind grommet, metal 	M20 M25 M32 M40		19 00 000 5070 19 00 000 5071 19 00 000 5072 19 00 000 5073	 M20: SW 22; E 25.4 M25: SW 28; E 32.3 M32: SW 35; E 40.4 M40: SW 44; E 50.8
Reducer 	M20 M32 M32	M16 M20 M25	19 00 000 5060 19 00 000 5067 19 00 000 5068	
Reducer, with O-ring 	M32 M32	M20 M25	19 00 000 5066 19 00 000 5069	

Accessories

Identification	Size	Reducers	Part number	Drawing Dimensions in mm
Han-Eco®, Reduction sealing insert 	M32		19 41 000 5132	
Han A®, Adapter, for motor connection 	M20		19 20 000 9962	 <p data-bbox="1040 801 1465 907"> ① Housings bulkhead mounting Han® 3 A ② Seal ③ Adapter Han® 3 A ④ housing for motor applications </p> 

Features

- Grip frame suitable for Han® 64 D / Han® 108 DD / Han® 24 E / Han® 24 ES / Han® 24 ESS / Han® 46 EE
- Multiple shield connections via grip frame
- Cable can be fixed with clamps or cable tie

Technical characteristics

Material (accessories) zinc die-cast


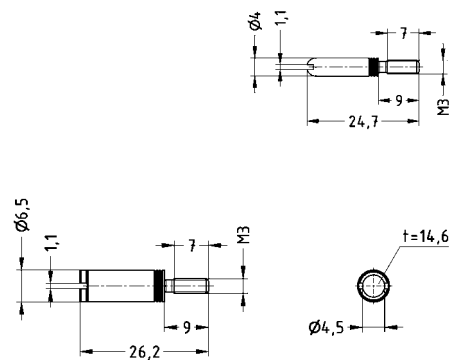

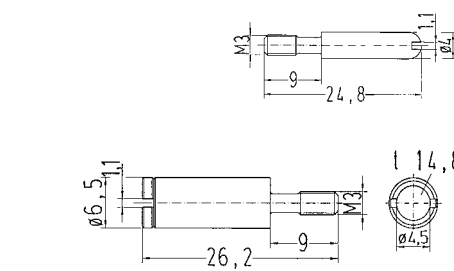

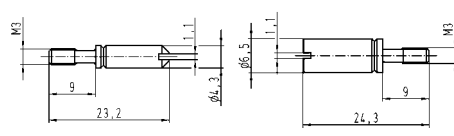
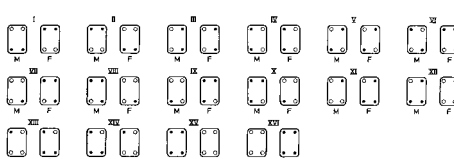
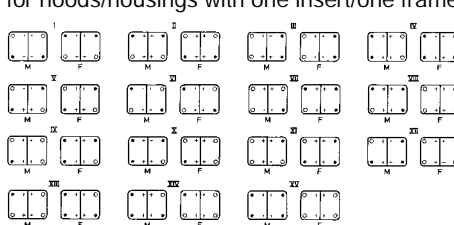
Details

The grip frame can be used for termination of several shielded cables to be fixed on one connector.

Identification	Size	Part number	Drawing Dimensions in mm															
Screw adapter, bulkhead mounting		09 00 000 5603	<table border="1"> <thead> <tr> <th></th> <th>a</th> <th>b</th> </tr> </thead> <tbody> <tr> <td>6 B</td> <td>65</td> <td>52</td> </tr> <tr> <td>10 B</td> <td>78</td> <td>65</td> </tr> <tr> <td>16 B</td> <td>98,5</td> <td>85,5</td> </tr> <tr> <td>24 B</td> <td>125</td> <td>112</td> </tr> </tbody> </table>		a	b	6 B	65	52	10 B	78	65	16 B	98,5	85,5	24 B	125	112
	a	b																
6 B	65	52																
10 B	78	65																
16 B	98,5	85,5																
24 B	125	112																
Screw adapter, bulkhead mounting to use in connection 09 00 024 5611		09 00 000 5602	<table border="1"> <thead> <tr> <th></th> <th>a</th> <th>b</th> </tr> </thead> <tbody> <tr> <td>6 B</td> <td>44</td> <td>35</td> </tr> <tr> <td>10 B</td> <td>57</td> <td>48</td> </tr> <tr> <td>16 B</td> <td>77,5</td> <td>68,5</td> </tr> <tr> <td>24 B</td> <td>104</td> <td>95</td> </tr> </tbody> </table>		a	b	6 B	44	35	10 B	57	48	16 B	77,5	68,5	24 B	104	95
	a	b																
6 B	44	35																
10 B	57	48																
16 B	77,5	68,5																
24 B	104	95																

Accessories

Identification	Size	Part number	Drawing Dimensions in mm
Grip frame, metal	16 B 24 B	09 00 016 5603 09 00 024 5601	
Grip frame, metal, with screw adapter and screw to use in connection with 09 00 000 5602	24 B	09 00 024 5611	

Identification	Part number		Drawing Dimensions in mm
	male	female	
<p>standard, Coding system with guide pins/bushes, for application "insert with screw adapter" with/ without grip frame</p>  <p>Please order 4 pieces for one connector</p>	09 33 000 9808	09 33 000 9809	
<p>standard, Coding system with guide pins/bushes, for application "insert in hood/housing"</p>  <p>Please order 4 pieces for one connector</p>	09 33 000 9908	09 33 000 9909	
<p>Han-Modular®, Coding system with guide pins/bushes, for application "insert in hood/housing"</p>  <p>Please order 4 pieces for one connector</p>	09 14 000 9908	09 14 000 9909	  <p>for hoods/housings with one insert/one frame</p>  <p>for hoods/housings with two inserts/two frames</p> <ul style="list-style-type: none"> ◆ Guide pin ○ Bush + Normal mounting screw M - Male insert F - Female insert



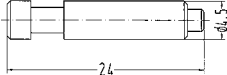
Accessories



Details

Coding pin

Use of the coding pin prevents incorrect mating to other connectors of the same type. The male pin should be omitted from the opposing cavity in the male insert.

Identification	Part number	Drawing Dimensions in mm
Han D [®] , Han DD [®] , Coding pin, plastic 	09 33 000 9915	
only for crimp termination with loss of one contact		
Han E [®] , Han [®] EE, Han [®] EEE, Coding pin, plastic 	09 33 000 9954	
for crimp inserts only		


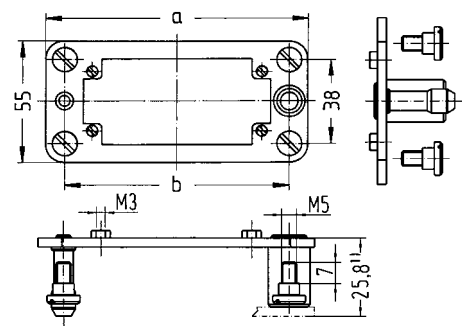
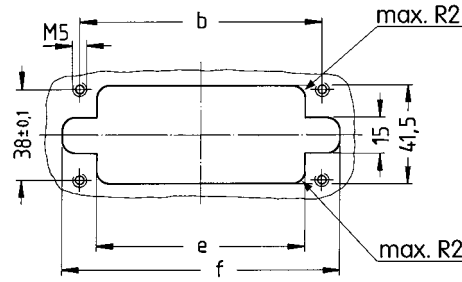


Features

- Suitable for all inserts of the series Han E®, Han E® HMC, Han EE®, Han EE® HMC, Han EEE®, Han EEE® HMC, Han® ES, Han D® (size B), Han D® HMC, Han DD®, Han DD® HMC, Han-Com®, Han® HsB, Han-Modular®
- Ideal for applications in the field of transportation, as well as in the printing industry
- Due to the floating system of the docking frame the PE connection of the mounting base has to be installed separately
- Inserts are protected against mechanical damage

Technical characteristics

Mating cycles	≥500
Mating cycles with HMC connectors	≥10000
Material (hoods/housings)	stainless steel
Material (screwing)	zinc die-cast

Identification	Size	Part number	Drawing Dimensions in mm
Docking frame Range of delivery: 1 frame, 4 cheese head shoulder screws to fix the docking frame  pull-in-range x-axis: ± 1.5 mm pull-in-range y-axis: ± 1.5 mm	6 B 10 B 16 B 24 B	09 30 006 1701 09 30 010 1701 09 30 016 1701 09 30 024 1701	 Distance for electrical and F.O. contacts max. 27 mm; for pneumatic contacts max. 26.5 mm 6 B: a=86; b=69 10 B: a=99; b=82 16 B: a= 119.5 ; b= 102.5 24 B: a=146; b=129  6 B: b= 69; e= 54.5; f= 84 10 B: b= 82; e= 67.5; f= 97 16 B: b= 102.5; e= 88; f= 117.5 24 B: b= 129; e= 114.5; f= 144

Number of contacts

3+



Features

- 3 PE-terminations
- Screws with ± head
- Self lifting washer
- Suitable for use with all inserts of the Han® 6 B to 24 B size (except Han® ESS-inserts)
- Suitable in hood high construction

Technical characteristics

Contacts 3
Material (contact) copper alloy

Details

Application

The PE-multiple ground connection may be used to terminate three PE-wires on one connector. Each PE-wire can be terminated and removed separately (acc. VDE 0113 DIN EN 60204 Pt. 14.1.1).

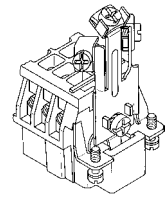
Identification

PE Multiple ground connection, nickel plated contacts,
Range of delivery:
Multiple ground connection,
Fixing screw M4 with washer
contact resistance ≤3 mOhm

Part number

09 33 000 9992


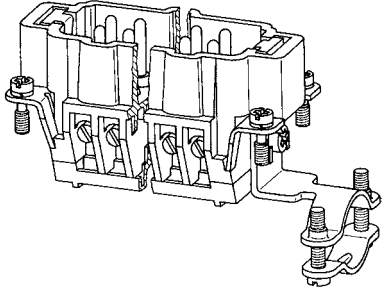

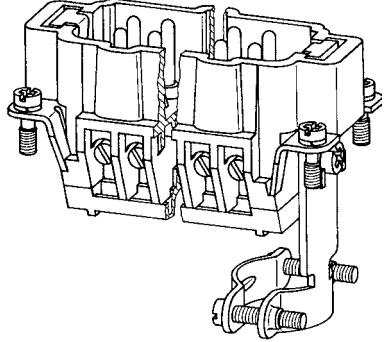
Drawing Dimensions in mm



Details

Straight cable clamp fitting

When using inserts without hoods or housings and requiring a strain relief this system is suitable for all rectangular connectors of series Han DD[®], Han[®] 40-64 D, Han E[®] / Han[®] ES, Han Hv E[®] / Han[®] Hv ES, Han[®] EE, Han[®] K 8/24. Fitted at the opposite end to the PE-termination.

Identification	Part number	Drawing Dimensions in mm
<p>Straight cable clamp fitting, angled</p> <p>Range of delivery: Cable clamp fitting with 2 screws M3, Fixing screw M4 with washer</p> 	<p>09 00 000 5339</p>	 <p>Clamping range of strain relief clamp: 9...19 mm</p>
<p>Straight cable clamp fitting, straight</p> <p>Range of delivery: Cable clamp fitting with 2 screws M3, Fixing screw M4 with washer</p> 	<p>09 00 000 5340</p>	

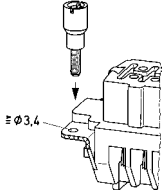
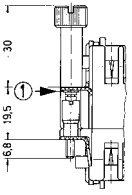
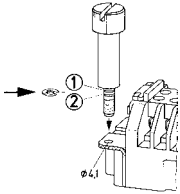
Features

- Useable for inserts without hoods or housings and requiring a strain relief
- Suitable for all rectangular connectors of the Han® series Han® 6 B, 10 B, 16 B, 24 B




Details

Bush/Screw pin

When using inserts without hoods or housings and requiring a locking facility this system is suitable for all rectangular connectors of the Han® series Han® 6 B, 10 B, 16 B, 24 B. For each connector we recommend two screw pins and two bushes as shown which are fitted diagonally to the inserts instead of the ordinary fixing screws. Holes for fixing to be drilled as shown.

Identification	Part number	Drawing Dimensions in mm
Bush Order 2 pieces for one connector.	09 33 000 9912	
Screw pin Order 2 pieces for one connector.	09 33 000 9910	
		Mounting example 

Identification	Size	Part number	Drawing Dimensions in mm
Toggle locking screw, for Han® 6/10/16/24 HPR 		09 40 000 9931	
Toggle locking screw, 3 HPR 		09 40 000 9933	
standard, Fixing screws 	M3	09 16 000 9903	
Fixing screws, for the Han® 3 A 	M3	09 20 000 9995	
Fixing screws, IP65 / IP67, for the Han® 3 A 	M3	09 20 000 9918	
Han-Compact®, Fixing screws 	ST 2.9x9.5 F-H	09 12 000 9921	
Contact screw, for Han® 3 A, 4 A, Staf®, for PE in Han® Q 5/0, Q 7/0 	M3	09 30 000 9997	

Identification	Size	Part number	Drawing Dimensions in mm
PE screw, for Han A®, Han® 15, 25 D 	M3.5	09 20 000 9919	
PE screw, for inserts size 6 B - 24 B 	M4	09 33 000 9925	
PE screw, for Han-Com®, Han® HsB 	M5	09 33 000 9926	
PE screw, for Han-Modular® hinged frames 	M3 M4	09 14 000 9953 09 14 000 9954	
Countersunk flat 		09 70 000 9902	
Countersunk flat, with gasket 		09 70 000 9905	
Locking screw, 3 HPR 	M4	09 40 000 9929	
Locking screw, for Han® 6/10/16/24 HPR 	M6	09 40 000 9932	
Locking screw, 48 HPR 	M6	09 40 000 9937	

Accessories




single locking lever

Technical characteristics

Limiting temperatures -40 °C ... 125 °C
 Degree of protection acc. to IEC IP65
 60529


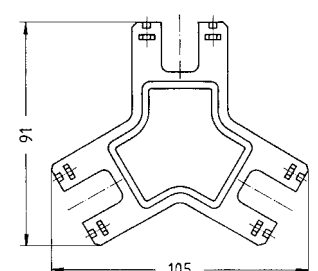

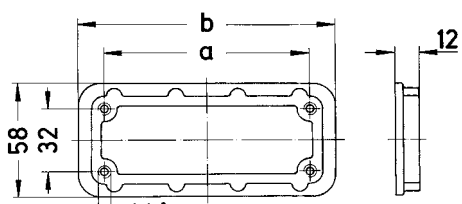


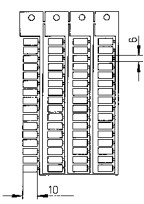
Technical characteristics


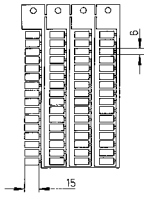
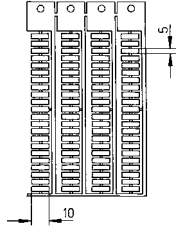

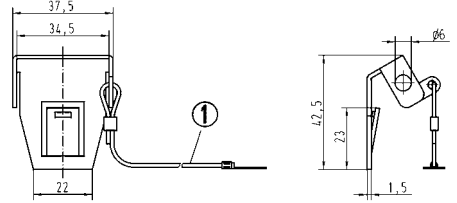

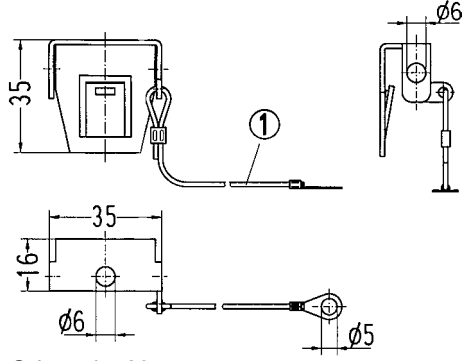
Surface (hoods/housings) powder-coated
 Colour (hoods/housings) RAL 7037 (grey)

Identification	Size	Part number	Drawing Dimensions in mm
Han® B, Protection cover for bearing pedestal, plastic 	6 B 10 B 16 B 24 B	09 30 006 5410 09 30 010 5410 09 30 016 5410 09 30 024 5410	
Han® B, Protection cover for bearing pedestal, metal 	6 B 10 B 16 B 24 B	09 30 006 5403 09 30 010 5404 09 30 016 5404 09 30 024 5404	
Bearing pedestal  for Han® 10 A, 16 A, 32 A, 6 B, 10 B, 16 B, 24 B		09 30 000 9964	

Technical characteristics

Material (accessories) plastic, metal





Identification	Size	Part number	Drawing Dimensions in mm
<p>Frame, for custom test adapters</p> <p>Range of delivery: 2 assembly plates, 12 nuts for insertion</p> 		09 38 000 9901	
<p>Mounting frames, for standard hoods/housings</p> 	<p>6 B 10 B 16 B 24 B</p>	<p>09 40 000 9921 09 40 000 9922 09 40 000 9923 09 40 000 9924</p>	 <p>6 B: a=70; b=96 10 B: a=83; b=109 16 B: a=103; b=129 24 B: a=130; b=156</p>
<p>Contact lubricant DvDA, for Han® contacts, Applicable onto Han contacts to reduce mating and unmating forces., Content: Preparation of perfluoropolyethers</p> <p>Range of delivery: vaporizer (40 ml), handling instruction</p> 		09 99 000 0829	
<p>Han E® AV, Identification strip, Multi-Contour (MK)</p> <p>Range of delivery: 64 pieces in one block</p> 		09 33 000 9971	

Identification	Size	Part number	Drawing Dimensions in mm
<p>Han® ES AV, Identification strip, Single-Contour (SK)</p> <p>Range of delivery: 64 pieces in one block</p> 		09 33 000 9973	
<p>Label, according to CSA-approval</p> <p>Range of delivery: 50 labels per sheet</p>		09 30 000 9958	
<p>Locking element with cord, for Han® 10/16/24 B with double metal levers</p> 		09 30 000 9987	 <p>① Length 120 mm</p>
<p>Locking element with cord, for Han® 10/16/24 B housings bulkhead mounting with Han-Easy Lock® double levers</p> 		09 30 000 9986	 <p>① Length 120 mm</p>

Contents	Page
Hand crimping tools for Han® standard contacts	90.4
Pneumatic crimping tools for Han® standard contacts.....	90.9
Crimping tools for D-Sub contacts.....	90.11
Crimping tools for Han® TC high current contacts	90.12
Crimping tools for fibre optic contacts	90.16
Crimping tools for other contacts.....	90.17
Crimping machine TC-C01	90.20
Crimping machine TK-M.....	90.22
Crimping machine TC-SC.....	90.24
Crimping machine BK.....	90.26
Assembly tools	90.28
Removal tools.....	90.34
Stripping tools.....	90.37

Overview Han® crimping tools



Crimp contacts Series	Part number				mm ²	AWG	Crimping tools						Tools		
	male contact silver plated	female contact silver plated	male contact silver plated	female contact gold plated			09 99 000 0888	09 99 000 0110	09 99 000 0021	09 99 000 0303	09 99 000 0377	20 99 000 1035	removal tools		
Han D® Signal contacts 09 15 000 	6107	6207	6127	6227	0.14 - 0.25	26 - 24	x							09 99 000 0012	09 99 000 0052
	6104	6204	6124	6224				x	x						
	6107	6207	6127	6227	0.37	22	x								
	6104	6204	6124	6224			x	x	x						
	6103	6203	6123	6223	0.5	20	x	x	x						
	6105	6205	6125	6225	0.75	18	x	x	x						
	6102	6202	6122	6222	1.0	18	x	x	x						
	6101	6201	6121	6221	1.5	16	x	x	x						
6106	6206	6126	6226	2.5	14	x									
Han D® F.O. contacts 20 10 001	Male contact 3211 3212 / 3213		Female contact 3221 3222		1 mm POF								x		
Han E® Power contacts 09 33 000 	6127	6227	6117	6217	0.14 - 0.37	26 - 22	x							09 99 000 0319	
	6121	6220	6122	6222	0.5	20	x	x	x						
	6114	6214	6115	6215	0.75	18	x	x	x						
	6105	6205	6118	6218	1.0	18	x	x	x						
	6104	6204	6116	6216	1.5	16	x	x	x						
	6102	6202	6123	6223	2.5	14	x	x	x						
	6106	6206			3.0	12	x	x							
	6107	6207	6119	6221	4.0	12	x	x							
Han E® F.O. contacts 20 10 001	Male contact 3311		Female contact 3321		1 mm POF								x		
Han-Yellock® Power contacts 11 05 000 	6101	6201	6121	6221	0.14 - 0.37	26 - 22	x							09 99 000 0319	
	6102	6202	6122	6222	0.5	20	x	x	x						
	6103	6203	6123	6223	0.75	18	x	x	x						
	6104	6204	6124	6224	1.0	18	x	x	x						
	6105	6205	6125	6225	1.5	16	x	x	x						
	6106	6206	6126	6226	2.5	14	x	x	x						
	6107	6207	6127	6227	3.0	12	x	x							
	6108	6208	6128	6228	4.0	12	x	x							
Han® C Power contacts 09 32 000 	6104	6204			1.5	16	x	x						09 99 000 0305	09 99 000 0381
	6105	6205			2.5	14	x	x							
	6107	6207			4.0	12	x	x			x				
	6108	6208			6.0	10					x	x			
	6109	6209			10.0	8					x	x			
Description															
Locator Han D®	09 99 000 0022								x						
Locator Han E®	09 99 000 0022								x						
Locator Han-Yellock®	09 99 000 0341							x							
	09 99 000 0343								x						
Locator Han® C	09 99 000 0304										x				
Locator Han D®, Han E® and Han® C	09 99 000 0376							x							





Tools

90
·
2



1) for Han® C Power contacts, 10 mm²



Overview Han® crimping tools







Crimp contacts Series	Part number				mm ²	AWG	Crimping machines															
	male contact silver plated	female contact silver plated	male contact silver plated	female contact gold plated			09 99 000 0813 ³⁾	09 99 000 0814 ³⁾	09 98 000 6901 ¹⁾	09 98 000 6902 ¹⁾	09 98 000 8101	09 98 000 8102	09 98 000 8103	09 98 000 8107 ⁵⁾	09 98 000 9001	09 98 000 9002	09 98 000 9003					
Han D® Signal contacts 09 15 000 	6107	6207	6127	6227	0.14 - 0.25	26 - 24																
	6104	6204	6124	6224			x		x ⁶⁾		x ⁶⁾					x						
	6107	6207	6127	6227	0.37	22																
	6104	6204	6124	6224			x	x			x					x						
	6103	6203	6123	6223	0.5	20	x	x			x							x				
	6105	6205	6125	6225	0.75	18	x	x			x							x				
	6102	6202	6122	6222	1.0	18	x	x			x							x				
	6101	6201	6121	6221	1.5	16	x	x			x							x				
6106	6206	6126	6226	2.5	14			x		x							x					
Han E® Power contacts 09 33 000 	6127	6227	6117	6217	0.14 - 0.37	26 - 22						x ⁶⁾							x			
	6121	6220	6122	6222	0.5	20	x				x			x						x		
	6114	6214	6115	6215	0.75	18	x				x			x						x		
	6105	6205	6118	6218	1.0	18	x				x			x						x		
	6104	6204	6116	6216	1.5	16	x				x			x						x		
	6102	6202	6123	6223	2.5	14	x				x			x						x		
	6106	6206			3.0	12	x				x			x						x		
	6107	6207	6119	6221	4.0	12	x				x			x						x		
Han-Yellok® Power contacts 11 05 000 	6101	6201	6121	6221	0.14 - 0.37	26 - 22														x ⁶⁾		
	6102	6202	6122	6222	0.5	20	x														x	
	6103	6203	6123	6223	0.75	18	x														x	
	6104	6204	6124	6224	1.0	18	x														x	
	6105	6205	6125	6225	1.5	16	x														x	
	6106	6206	6126	6226	2.5	14	x														x	
	6107	6207	6127	6227	3.0	12	x															
	6108	6208	6128	6228	4.0	12	x															
Han® C Power contacts 09 32 000 	6104	6204			1.5	16	x														x	
	6105	6205			2.5	14	x															x
	6107	6207			4.0	12	x															x
	6108	6208			6.0	10		x														x
	6109	6209			10.0	8		x														x
Description																						
Locator Han-Yellok®	09 99 000 0344						x															


1) TK-M basic machine 09 98 000 6900 is required
 3) basic unit CP 600 (09 99 000 0810) is required
 5) TC-SC basic machine 09 98 000 8000 is required
 6) depending on the wire






Identification	Wire cross section (mm ²)	Part number	
<p>Crimping tool, Han D[®]: 0.14 ... 2.5 mm², Han E[®]: 0.14 ... 4 mm², Han-Yellock[®]: 0.14 ... 4 mm², Han[®] C: 1.5 ... 4 mm², The high end tool with best performance. Range of delivery: locator included, handling instruction For wire gauges from 0.14 und 0.25 mm² please use the contacts 09150006107, 6207, 6127 or 6227.</p> <p>for optional testing</p>	<p>0.14 – 4</p>	<p>09 99 000 0888</p>	
<p>Han D[®], Han E[®], Han-Yellock[®], Han[®] C, Locator for crimp tool, as spare part</p>		<p>09 99 000 0889</p> <p>09 99 000 0887</p>	


Identification	Wire cross section (mm ²)	Part number	
Han- <i>Yellock</i> ®, Locator for crimp tool		09 99 000 0341	
HARTING standard crimping tool, Han D®: 0.14 ... 1.5 mm ² , Han E®: 0.5 ... 4 mm ² , Han- <i>Yellock</i> ®: 0.5 ... 4 mm ² , Han® C: 1.5 ... 4 mm ² , Robust allrounder with very good performance. Range of delivery: locator included, Han D®, Han E®, Han® C, Please order Han- <i>Yellock</i> ® separately!	0.14 – 4	09 99 000 0110	
Han D®, Han E®, Han® C, Locator for crimp tool, as spare part		09 99 000 0376	

Identification	Wire cross section (mm ²)	Part number	
Han- <i>Yellock</i> [®] , Locator for crimp tool		09 99 000 0343	
<p>HARTING Service crimping tool, Han D[®]: 0.14 ... 1.5 mm², Han E[®]: 0.5 ... 2.5 mm², Han- <i>Yellock</i>[®]: 0.5 ... 2.5 mm², The service tool for on-site maintenance.</p> <p>Range of delivery: locator included, Han D[®], Han E[®], Please order Han- <i>Yellock</i>[®] separately!</p>	0.14 – 2.5	09 99 000 0021	
Han D [®] , Han E [®] , Locator for crimp tool, as spare part		09 99 000 0022	

Identification	Wire cross section (mm ²)	Part number	
<p>HARTING crimping tool, Han® C: 4 ... 10 mm², The professional tool for a wide contact range.</p> <p>Range of delivery: locator included, Han® C</p>	4 – 10	09 99 000 0303	
<p>Han® C, Locator for crimp tool, as spare part</p>		09 99 000 0304	
<p>Locator for crimp tool, Han E®: 5.5 mm²</p>		09 99 000 0306	
<p>Locator for crimp tool, Han-<i>Yellock</i>® PE, contacts 6 + 10 mm²</p>		09 99 000 0845	

Identification	Wire cross section (mm ²)	Part number	
<p>HARTING crimping tool, Han[®] C: 6 ... 10 mm², The professional tool for big wire cross section. Range of delivery: locator included</p>	6 - 10	09 99 000 0377	




Identification	Wire cross section (mm ²)	Part number	
Han- <i>Yellock</i> [®] , Locator for crimp tool		09 99 000 0344	
HARTING pneumatic crimping tool CP 600 Range of delivery: basic unit without tool head		09 99 000 0810	
Footswitch, CP 600		09 99 000 0811	
Table fixing, CP 600		09 99 000 0812	
Tool head, Han D [®] : 0.14 ... 1.5 mm ² , Han E [®] : 0.5 ... 4 mm ² , Han- <i>Yellock</i> [®] : 0.5 ... 4 mm ² , Han [®] C: 1.5 ... 4 mm ² Range of delivery: locator included, Han D [®] , Han E [®] , Han [®] C, Please order Han- <i>Yellock</i> [®] separately!	0.14–4	09 99 000 0813	

Identification	Wire cross section (mm ²)	Part number	
Tool head, Han [®] C: 6 ... 10 mm ² Range of delivery: locator included	6 - 10	09 99 000 0814	









Identification	Wire cross section (mm ²)	Part number	
HARTING crimping tool, for 500 bandoliered standard contacts	0.09–0.56	09 99 000 0169	
Crimping tool, for single stamped D-Sub contact	0.09–0.56	09 99 000 0175	
Hand crimping tool, for turned male and female contact, 4 indent crimp in acc. to MIL 22 520/2-01	0.09–0.82	09 99 000 0501	
Locator for crimp tool, for 09 99 000 0501		09 99 000 0531	

Identification	Wire cross section (mm ²)	Part number	
<p>HARTING Battery hydraulic tool, Pressing force 60 kN, Crimp die acc. to DIN 46 235 with pressing width 9mm</p>	10 – 70	09 99 000 0850	
<p>HARTING hydraulic handtool, Pressing force 60 kN, Crimp die acc. to DIN 46 235 with pressing width 9mm</p>	10 – 70	09 99 000 0851	
<p>Crimp die, for 60 kN tool, Identification 6, acc. to DIN 46 235, Pressing width 9mm, TC 70, TC 100 (D8) Range of delivery: supplied as a pair</p>	10	09 99 000 0852	
<p>Crimp die, for 60 kN tool, Identification 8, acc. to DIN 46 235, Pressing width 9mm, TC 70, TC 100 (D8) Range of delivery: supplied as a pair</p>	16	09 99 000 0853	
<p>Crimp die, for 60 kN tool, Identification 10, acc. to DIN 46 235, Pressing width 9mm, TC 70, TC 100, TC 200, TC 250, TC 350 Range of delivery: supplied as a pair</p>	25	09 99 000 0854	

Tools

Identification	Wire cross section (mm ²)	Part number	
<p>Crimp die, for 60 kN tool, Identification 12, acc. to DIN 46 235, Pressing width 9mm, TC 100, TC 200, TC 250, TC 350</p> <p>Range of delivery: supplied as a pair</p>	35	09 99 000 0855	
<p>Crimp die, for 60 kN tool, Identification 14, acc. to DIN 46 235, Pressing width 9mm, TC 200, TC 250, TC 350</p> <p>Range of delivery: supplied as a pair</p>	50	09 99 000 0856	
<p>Crimp die, for 60 kN tool, Identification 16, acc. to DIN 46 235, Pressing width 9mm, TC 200, TC 250, TC 350, TC 650</p> <p>Range of delivery: supplied as a pair</p>	70	09 99 000 0857	

Identification	Wire cross section (mm ²)	Part number	
<p>HARTING Battery hydraulic tool, Pressing force 120 kN, Crimp die acc. to DIN 46 235 with pressing width 10-14mm</p>	10–240	09 99 000 0860	
<p>HARTING hydraulic handtool, Pressing force 120 kN, Crimp die acc. to DIN 46 235 with pressing width 10-14mm</p>	10–240	09 99 000 0861	
<p>Crimp die, for 120 kN tool, Identification 6, acc. to DIN 46 235, Pressing width 10mm, TC 70, TC 100 (D8) Range of delivery: supplied as a pair</p>	10	09 99 000 0862	
<p>Crimp die, for 120 kN tool, Identification 8, acc. to DIN 46 235, Pressing width 10mm, TC 70, TC 100 (D8) Range of delivery: supplied as a pair</p>	16	09 99 000 0863	
<p>Crimp die, for 120 kN tool, Identification 10, acc. to DIN 46 235, Pressing width 10mm, TC 70, TC 100, TC 200, TC 250, TC 350 Range of delivery: supplied as a pair</p>	25	09 99 000 0864	

Identification	Wire cross section (mm ²)	Part number	
<p>Crimp die, for 120 kN tool, Identification 12, acc. to DIN 46 235, Pressing width 10mm, TC 100, TC 200, TC 250, TC 350</p> <p>Range of delivery: supplied as a pair</p>	35	09 99 000 0865	
<p>Crimp die, for 120 kN tool, Identification 14, acc. to DIN 46 235, Pressing width 13mm, TC 200, TC 250, TC 350</p> <p>Range of delivery: supplied as a pair</p>	50	09 99 000 0866	
<p>Crimp die, for 120 kN tool, Identification 16, acc. to DIN 46 235, Pressing width 13mm, TC 200, TC 250, TC 350, TC 650</p> <p>Range of delivery: supplied as a pair</p>	70	09 99 000 0867	
<p>Crimp die, for 120 kN tool, Identification 18, acc. to DIN 46 235, Pressing width 14mm, TC 350, TC 650 (D20)</p> <p>Range of delivery: supplied as a pair</p>	95	09 99 000 0868	
<p>Crimp die, for 120 kN tool, Identification 20, acc. to DIN 46 235, Pressing width 14mm, TC 350, TC 650 (D20)</p> <p>Range of delivery: supplied as a pair</p>	120	09 99 000 0869	
<p>Crimp die, for 120 kN tool, Identification 22, acc. to DIN 46 235, Pressing width 10mm, TC 650</p> <p>Range of delivery: supplied as a pair</p>	150	09 99 000 0870	
<p>Crimp die, for 120 kN tool, Identification 25, acc. to DIN 46 235, Pressing width 10mm, TC 650</p> <p>Range of delivery: supplied as a pair</p>	185	09 99 000 0871	
<p>Crimp die, for 120 kN tool, Identification 28, acc. to DIN 46 235, Pressing width 10mm, TC 650</p> <p>Range of delivery: supplied as a pair</p>	240	09 99 000 0872	

Identification

Part number

HARTING crimping tool,
for F.O. connector (glass fibre),
SC, F-SMA F-ST,
SW 3.8 mm, SW 4.3 mm, SW 4.95 mm,
for crimping the strain relief

20 99 000 1031



HARTING crimping tool,
for F.O. connector (plastic fibre),
SC, F-SMA F-ST,
SW 3.0 mm, SW 4.95 mm, SW 6.95 mm,
for crimping the strain relief

20 99 000 1033



HARTING crimping tool,
for following 1 mm POF contacts,
Han D®, Han E®, DIN 41 626, Ferrule, F-SMA, -ST

20 99 000 1035



Identification	Wire cross section (mm ²)	Part number	
HARTING crimping tool, for wire end ferrules, 10 mm ²	10	09 99 000 0374	
HARTING crimping tool, for wire end ferrules, 16...25 mm ²	16 – 25	09 99 000 0830	
HARTING crimping tool, for Han-Fast® Lock single contact, locator included	4 – 10	09 99 000 0831	
HARTING crimping tool, for coaxial contact, acc. to DIN 41 626, Please order crimp dies separately.		09 99 000 0503	
Crimp die		09 99 000 0508	
HARTING crimping tool, for coaxial contact, acc. to DIN 41 626		09 99 000 0194	



Identification	Part number
Crimp die, SW 6.0	61 03 000 0098
Crimp die, SW 6.5	61 03 000 0099
Crimp die, SW 7.0	61 03 000 0100
Crimp die, SW 7.5	61 03 000 0101
Crimp die, SW 8.0	61 03 000 0102
Crimp die, SW 8.5	61 03 000 0103
Crimp die, SW 9.0	61 03 000 0104
Crimp die, SW 9.5	61 03 000 0105
Crimp die, SW 11.0	61 03 000 0168
Crimp die, SW 11.5	61 03 000 0169
Crimp die, SW 10.5	61 03 000 0172
Crimp die, SW 14.0	61 03 000 0173
Crimp die, SW 10.0	61 03 000 0174
Crimp die, SW 12.0	61 03 000 0175
Crimp die, SW 12.5	61 03 000 0176
Crimp die, SW 13.0	61 03 000 0177
Crimp die, SW 13.5	61 03 000 0178
Crimp die, SW 5.0	61 03 000 0179
Crimp die, SW 5.5	61 03 000 0180

Identification

Part number

HARTING crimping tool,
for crimp barrel and crimp flange,
Please order crimp dies separately.,
(61 03 000 0xxx)

61 03 600 0020



Features

- Basic unit of compact construction for pre-stripped wires (stranded wire)
- Easy handling due to well-arranged design
- For individual, turned male and female contacts
- Selective processing of male and female contacts
- Automatic contact feed
- Reproducible, top quality gas-tight crimp connections
- Non-slip, anti-vibration adjustable feet for setting the height
- Low noise level
- With carrying handle
- Removable electric and pneumatic supply connections
- Maintenance interval counter
- Minimal setup effort
- Crimping depth can be set without tools
- Low follow-up costs for maintenance and repair
- Easy replacement of wearing components

Technical characteristics

Weight	≥24 kg
Noise level	ca.62 dB
Nominal voltage, max.	230 V
Nominal frequency	50 Hz
Power consumption	ca.0.2 kW
Pressure	ca.6 bar
Control system	PLC
Work cycle trigger	Footswitch
Work cycle	1 s
Crimp type	Four-point crimping
Contact feed	Vibratory bowl feed
Stroke counters	Resettable daily counter and permanent counter
Dimensions	345 x 230 x 400 mm

Details

Range of delivery:

with 2.0 m connection cable and grounding plug,
with 2.0 m pneumatic hose, quick-release coupling and N6 plug-in nipple,
footswitch,
carrying handle,
operating instructions,
declaration of conformity

Identification	Wire cross section (mm ²)	Part number	Drawing Dimensions in mm
Crimping machine TC-C01, for Han D [®] contact	0.14 – 2.5	09 98 000 9001	
Crimping machine TC-C01, for Han E [®] contact	0.14 – 4	09 98 000 9002	
Crimping machine TC-C01, for Han [®] C contact	1.5 – 10	09 98 000 9003	
Pneumatic maintenance unit, optional accessory		09 98 336 6851	

Features

- Basic unit of compact construction
- Fast stripping and crimping in one operating step
- Easy handling due to well-arranged design
- Touchscreen controlling
- For individual, turned male and female contacts
- Selective processing of male and female contacts
- Contact magazine with filling control
- Reproducible, top quality gas-tight crimp connections
- Infinitely variable adjustment parameters (stripping depth, stripping length, crimping depth, crimp contact feed rate)
- Rotatable vibration feeder and actuator in basic unit
- Low noise level
- For oil-free compressed air
- Minimal setup effort
- Low maintenance costs




Technical characteristics

Weight	<60 kg
Noise level	<70 dB
Drive	electro-pneumatic
Nominal voltage, max.	230 V
Nominal frequency	50 Hz
Power consumption	ca.0.75 kW
Pressure	ca.6 bar
Compressed air connection	3 dm ³ / work cycle
Control system	PLC
Work cycle trigger	sensor
Work cycle	1.5 s
Crimp type	Four-point crimping
Contact feed	Vibratory bowl feed
Stroke counters	Resettable daily counte, total counter, operating hours, maintenance counter and quantity preselection
Dimensions	580 x 470 x 470 mm

Details

Range of delivery:

with one mounted interchangeable unit,
 with 2.0 m connection cable and grounding plug,
 with 2.0 m pneumatic hose with plug-in nipple N6,
 plug gauges for setting the crimping,
 centering bush for positioning the plug gauges,
 draw for insulation remains,
 drawer for holding the contacts when the magazine is emptied,
 tool set for setting,
 1 set of stripping blades,
 operating instructions,
 declaration of conformity

Identification	Wire cross section (mm ²)	Part number	
<p>Crimping machine TK-M, Basic machine without interchangeable unit</p> <p>Range of delivery: Tool set for setting, 1 set of stripping blades, operating instructions, declaration of conformity</p>		09 98 000 6900	
<p>Han D[®], Interchangeable unit</p>	0.14–2.5	09 98 000 6901	
<p>Han E[®], Interchangeable unit</p>	0.14–4	09 98 000 6902	

Features

- Fast stripping and crimping in one operating step
- Basic unit of compact construction
- Easy handling due to well-arranged design
- Touchscreen controlling
- For individual, turned male and female contacts (series Han D[®], Han E[®], Han C[®], Han P[®], Han-Yello[®], D-Sub)
- Selective processing of male and female contacts
- Contact magazine with filling control
- Reproducible, top quality gas-tight crimp connections
- Motor-driven variable adjustment parameters (stripping depth, stripping length, crimping depth and wire position)
- Infinitely variable adjustment parameters (wire retention force and crimp contact feed rate)
- Low noise level
- For oil-free compressed air
- Minimal setup effort
- Low maintenance costs





Technical characteristics

Weight	≥75 kg
Noise level	ca.75 dB
Drive	electro-pneumatic
Nominal voltage, max.	230 V
Nominal frequency	50 Hz
Power consumption	ca.1 kW
Pressure	ca.6 bar
Compressed air connection	3 dm ³ / work cycle
Control system	PLC
Work cycle trigger	sensor
Work cycle	2 s
Crimp type	Four-point crimping
Contact feed	Vibratory bowl feed
Stroke counters	Resettable daily counte, total counter, operating hours, maintenance counter and quantity preselection
Dimensions	480 x 650 x 560 mm

Details

Range of delivery:

with one mounted interchangeable unit,
with 2.0 m connection cable and grounding plug,
with 2.0 m pneumatic hose with plug-in nipple N6,
tool set for setting,
1 set of stripping blades,
operating instructions,
declaration of conformity

Identification	Wire cross section (mm ²)	Part number	
Crimping machine TC-SC Range of delivery: Tool set for setting, 1 set of stripping blades, operating instructions, declaration of conformity		09 98 000 8000	
Han D [®] , Interchangeable unit	0.14–2.5	09 98 000 8101	
Han E [®] , Interchangeable unit	0.14–4	09 98 000 8102	
Han [®] C, Interchangeable unit, only for use with crimping tool 09 98 300 8103	1.5–10	09 98 000 8103	
D-Sub, Interchangeable unit	0.5–0.75	09 98 000 8104	
Han-Yellock [®] , Interchangeable unit	0.5–2.5	09 98 000 8107	
Han [®] C, Crimping tool	1.5–10	09 98 300 8103	

Features

- Fast stripping and crimping in one operating step
- Easy handling due to quick change tool and stripper
- Suitable for D-Sub crimp contacts
- Selective processing of male and female contacts
- Hand wheel for manual adjustments
- Maintenance-friendly through needle bearing rail
- Automatic exhaust of the isolation remainders
- Reproducible, top quality gas-tight crimp connections
- With crimp force monitor
- Setting parameters with raster rotary button (depth of insulation stripping, length of insulation stripping, crimping height on wire, crimping height on insulation, wire retainer position, band thrust and wire position in the crimp contact)
- Non slip and anti-vibration feet
- Low noise level
- For oil-free compressed air
- Low maintenance costs
- V-Blades for special wires on request




Technical characteristics

Weight	<72 kg
Noise level	85 dB
Drive	electro-pneumatic
Nominal voltage, max.	230 V
Nominal frequency	50 Hz
Power consumption	0.75 kW
Pressure	6 bar
Control system	PLC
Stripping device	type 514
Suction apparatus	2000.0900.20
Work cycle trigger	sensor
Work cycle	0.35 s
Illumination	integrated tool light 20001326
Motor speed	440 –2000 rpm
Stroke counters	Resettable daily counter and permanent counter
Dimensions	690 (with a contact reel: 1400) x 420 x 430 mm

Details

Range of delivery:

with role owner and guide plate,
 with 2.0 m connection cable and grounding plug,
 with 2.0 m pneumatic hose with plug-in nipple N9,
 oiler bottle for the lubricating of the crimping contacts,
 tool set for setting,
 1 set of stamps for wire and isolation-crimp,
 1 anvil one-piece for wire and isolation-crimp,
 1 set of stripping blades,
 1 litre of contact oil,
 operating instructions,
 declaration of conformity

Identification	Wire cross section (mm ²)	Part number	
Crimping machine BK Range of delivery: with role owner and guide plate, Tool set for setting, 1 set of stripping blades, operating instructions, declaration of conformity		09 98 000 5000	
D-Sub, Quick change tool, small	0.09–0.25	09 98 000 3008	
D-Sub, Quick change tool, large	0.25–0.5	09 98 000 3009	

Identification	Size	Part number
----------------	------	-------------

Panel punch,
Han-*Yellock*[®] 30,
max. plate thickness (structural grade
carbon steel): 2.0 mm,
for HARTING panel punch,
≥60 kN,
3/4" UNF

11 99 300 0001



Panel punch,
Han-*Yellock*[®] 60,
max. plate thickness (structural grade
carbon steel): 2.0 mm,
for HARTING panel punch,
≥60 kN,
3/4" UNF

11 99 600 0001



HARTING Battery hydraulic panel punch,
to produce panel cut outs for connectors,
punching pressure: 60 kN
Range of delivery:
in plastic case,
Lithium-Ion battery 18 V, 3 Ah,
Charging set,
Accessories

09 99 000 0900



HARTING hydraulic hand panel punch,
to produce panel cut outs for connectors,
punching pressure: 60 kN
Range of delivery:
in plastic case,
Accessories

09 99 000 0901



HARTING Punch units for hydraulic
punch drivers,
max. plate thickness (structural grade
carbon steel): 2.0 mm,
36.0 x 52.0 mm

6 B

09 99 000 0902

Identification	Size	Part number
HARTING Punch units for hydraulic punch drivers, max. plate thickness (structural grade carbon steel): 2.0 mm, 36.0 x 65.0 mm	10 B	09 99 000 0903
HARTING Punch units for hydraulic punch drivers, max. plate thickness (structural grade carbon steel): 2.0 mm, 36.0 x 86.0 mm	16 B	09 99 000 0904
HARTING Punch units for hydraulic punch drivers, max. plate thickness (structural grade carbon steel): 2.0 mm, 36.0 x 112.0 mm	24 B	09 99 000 0905
HARTING Punch units for hydraulic punch drivers, max. plate thickness (structural grade carbon steel): 2.0 mm, 21.3 x 21.3 mm	3 HPR	09 99 000 0906
HARTING Punch units for hydraulic punch drivers, max. plate thickness (structural grade carbon steel): 2.0 mm, 22.0 x 22.0 mm	3 A	09 99 000 0907
HARTING Punch units for hydraulic punch drivers, max. plate thickness (structural grade carbon steel): 2.0 mm, 24.0 x 73.0 mm	16 A	09 99 000 0909
HARTING Punch units for hydraulic punch drivers, max. plate thickness (structural grade carbon steel): 2.0 mm, 22.0 x 22.0 mm, Han-Yellock® 10		09 99 000 0910
HARTING Punch units for hydraulic punch drivers, max. plate thickness (structural grade carbon steel): 2.0 mm, 27.5 x 31.5 mm, Han-Modular® Compact		09 99 000 0912

Identification

Part number

Torque set,
for High Current axial screw contact,
incl. reversing blade (SW 4.0 + SW 5.0),
Moment of torque: 5-14 Nm

09 99 000 0833

Range of delivery:
High quality metal box,
Variable tightening torque tool TorqueVario®-STplus,
Setting tool: torque-setter,
HARTING optimised interchangeable blades hexagonal SW 4,
HARTING optimised interchangeable blades hexagonal SW 5



Torque set,
for power contact,
incl. reversing blade (SW 2.0 + SW 2.5 + PH2),
+ different bits,
+ adapter blade,
Moment of torque: 1-5 Nm

09 99 000 0834

Range of delivery:
High quality metal box,
Variable tightening torque tool TorqueVario®-S,
Setting tool: torque-setter,
HARTING optimised interchangeable blades hexagonal SW 2,
HARTING optimised interchangeable blades hexagonal SW 2.5,
HARTING optimised interchangeable blades PH2,
Torque bit universal holder,
Bits: SW3, SW4, PH0, PH1, PH2, T10, T15, T20, slot 0.6 x 4.5,
slot 0.8 x 5.5










Torque set,
for HARTING screw contacts and fixing screws,
Moment of torque: 0.5 + 1.2 Nm

09 99 000 0835

Range of delivery:
High quality metal box,
Two pre-set tightening torque screwdrivers TorqueFix®,
Interchangeable blades PH1, PH2, slot 0.5 x 3.0

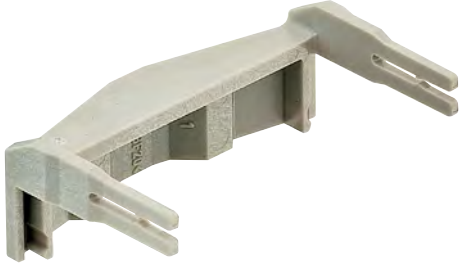

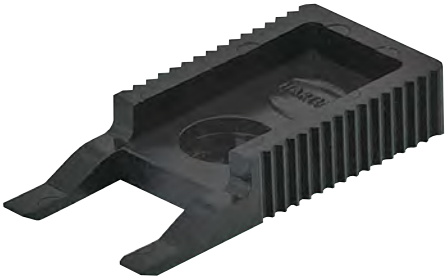












Identification	Part number	Drawing Dimensions in mm
Insertion tool, for Han® ES insert	09 99 000 0367	
Insertion tool for crimp contacts, small cross sections, variable length of blade, Han D®, Han E®, Han-Yellok®, When using wire cross section below 0,75 mm² a mounting tool for inserting the contact into the insert is recommended., The terminated contact is inserted into the tool and pushed into the contact chamber from the termination side.	09 99 000 0847	
Replacement-tip, for 09 99 000 0847	09 99 000 0848	
Hexagonal driver for axial screw, Bit 1/4", 40 A contact (SW 2)	09 99 000 0369	
Hexagonal driver for axial screw, Bit 1/4", 70 A contact (SW 2.5)	09 99 000 0375	
Hexagonal driver for axial screw, with grip, SW 4 (e. g. Han® 100 A Axial module)	09 99 000 0363	
Hexagonal driver for axial screw, adapter 3/8", SW 4 (e. g. Han® 100 A Axial module)	09 99 000 0370	







Identification	Part number	Drawing Dimensions in mm
Hexagonal driver for axial screw, with grip, SW 5 (e. g. Han® 200 A Axial module)	09 99 000 0364	
Hexagonal driver for axial screw, adapter 3/8", SW 5 (e. g. Han® 200 A Axial module)	09 99 000 0371	
Hexagonal driver for axial screw, adapter 3/8", SW 8 (e. g. Han® HC Modular 650)	09 99 000 0372	
Han® VDE Screw Driver Set, The standard set. Range of delivery: slim bit screw driver 0.4 x 2.5, slim bit screw driver 0.5 x 3.0, slim bit screw driver 0.6 x 3.5, slim bit screw driver 1.0 x 4.5, Phillips screw driver PH1 (191 x 23 mm), Phillips screw driver PH2 (218 x 23 mm)	09 99 000 0836	
Torque set, for guiding pins and bushes, Moment of torque: 0.5 Nm, incl. 1/4" Bit Range of delivery: Torque bit universal holder 1/4", 1 HARTING guiding pins and bushes bit, Product comes already pre-assembled in practical plastic packaging	09 99 000 0840	
Bit 1/4" as a spare part for guiding pins and bushes Range of delivery: packaging unit: 5 pieces	09 99 000 0841	
Screw Driver Set Slimline, Insolated blade for slim assembly. Range of delivery: slim bit screw driver 0.6 x 3.5, slim bit screw driver 0.8 x 4.5, Phillips screw driver PH1 (191 x 30 mm), Phillips screw driver PH2 (218 x 36 mm)	09 99 000 0844	
Polishing paper, for POF grain size 1000 Range of delivery: Each part number means 5 pieces	20 80 001 9911	

Identification	Part number	Drawing Dimensions in mm	
Polishing paper, for GI 9 μ -grain size Range of delivery: Each part number means 5 pieces	20 80 001 9912		
Polishing paper, for GI 1 μ -grain size Range of delivery: Each part number means 5 pieces	20 80 001 9913		
Polishing tool, DIN 41 626	20 99 000 1092		
Polishing tool, POF cable 2.2mm diameter	20 99 000 1093		
Polishing tool, SC	20 99 000 1097		



Identification	Wire cross section (mm ²)	Part number	
<p>Han-Yellock[®], Removal tool, for Han-Yellock[®] modules and frames, thermoplastic</p>		11 99 000 0001	
<p>Han-Yellock[®], Removal tool, for Han-Yellock[®] modules and frames, metal</p>		11 99 000 0002	
<p>Han-Modular[®], Removal tool, for all Han-Modular modules in plastic frames, Insert the tool from the termination side between plastic frame and module and remove the module by applying slight pressure from the mating side. You need 2 pieces for the removal of a single module and 4 pieces for the double module.</p>		09 99 000 0331	
<p>Removal tool, for the Han[®] 100 A single module, for Han[®] GND</p>		09 99 000 0827	
<p>Han-Modular[®], Han-Eco[®], Han-Yellock[®], Removal tool, metal, for single modules, Insert the tool from the termination side between plastic frame and module and remove the module by applying slight pressure from the mating side.</p>		09 99 000 0828	

Identification	Wire cross section (mm ²)	Part number	
<p>Han-Modular[®], Removal tool, metal, for double modules, Insert the tool from the termination side between plastic frame and module and remove the module by applying slight pressure from the mating side.</p>		09 99 000 0842	
<p>Removal tool, for LC contact in the Han[®] LC module</p>		09 99 000 0843	
<p>Han D[®], Replacement-tip, for 09 99 000 0012</p>		09 99 000 0004	
<p>Han D[®], Removal tool, Insert tool from the mating side of the connector until it comes to a stop., By putting additional pressure on the tool the contact is unlocked and pushed out towards the termination side., When using the removal tool (...0052) the contact is unlocked by pushing the central plunger.</p>		09 99 000 0012	
<p>Han D[®], Removal tool, Service</p>		09 99 000 0052	
<p>Han[®] C, Removal tool</p>	1.5–6 10	09 99 000 0305 09 99 000 0381	
<p>Han E[®], Removal tool for crimp contacts, Insert the tool from the termination side until it comes to a stop., After that the contact with the attached wire can be pulled out of the isolator body.</p>		09 99 000 0319	
<p>Removal tool for crimp contacts, for contact in the multi module</p>		09 99 000 0328	
<p>Han[®] EasyCon, Removal tool, For assembly and disassembly of shield- ing clamps.</p>		09 99 000 0334	
<p>Han-Modular[®], Insertion and removal tool, for D-Sub crimp contact</p>		09 99 000 0368	

Identification	Wire cross section (mm ²)	Part number	
Han-Quintax [®] , Removal tool, for Quintax contact		09 99 000 0323	
Removal tool, for locking sleeves in the HV module, Insert from mating side.		09 99 000 0327	
Removal tool, for the Han [®] 100 A crimp module		09 99 000 0383	
Removal tool, for the Han [®] 200 A crimp module, Insert from mating side.		09 99 000 0820	
Han [®] HC Modular, Removal tool, for Han [®] HC Modular 250 Crimp, For unlocking the fixing plate, insert from mating side.		09 99 000 0332	
Han [®] HC Individual, Removal tool		09 99 000 0826	
Han-Fast [®] Lock, Removal tool, For easier removal of the Fast-Lock con- tact from the printed circuit board.		09 99 000 0837	

Identification	Wire cross section (mm ²)	Part number	
Stripping tool	0.08 – 10	09 99 000 0159	
Stripping tool, self-adjusting	0.03 – 10	09 99 000 0808	
Fibre stripper, 0.3 mm		20 99 000 1041	
Fibre stripper, 1 mm		20 99 000 1045	
Fibre stripper, 0.18 / 0.3 mm		20 99 000 1046	

Altanium Temperature Controllers and Ultra Hot Runners provide superior melt delivery for the Plastics Industry.

Husky Hot Runner Systems with HARTING Han® 24 E connectors providing power and signal – quality connections resulting in highest reliability and minimum down time in molding systems.

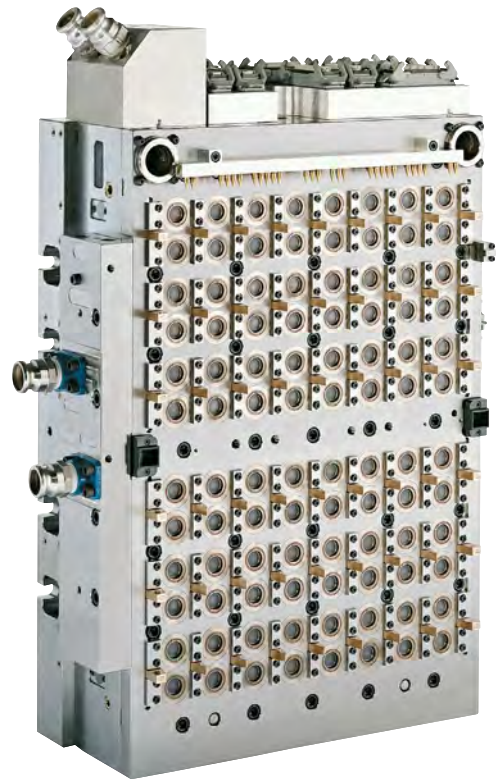


Photo courtesy:
Husky Injection Molding
Systems, Bolton, Ontario,
Canada

List of part numbers



part numbers	page	part numbers	page	part numbers	page	part numbers	page
09 00 000 5047	13.50	09 08 000 6923	20.12	09 11 000 6221	06.9	09 11 000 9974	14.52
09 00 000 5057	13.50	09 08 000 6924	20.12	09 11 000 6222	06.9	09 11 000 9974	14.59
09 00 000 5058	13.50	09 08 000 7123	20.12	09 11 000 6223	06.9	09 11 000 9980	14.69
09 00 000 5059	13.50	09 08 000 7124	20.12	09 11 000 6225	06.11	09 11 000 9982	14.69
09 00 000 5156	13.50	09 08 000 7222	20.12	09 11 000 6225	06.13	09 11 000 9987	14.68
09 00 000 5157	13.50	09 08 000 7923	20.12	09 11 000 6225	42.6	09 11 000 9989	14.68
09 00 000 5158	13.50	09 08 000 7924	20.12	09 11 000 6226	14.15	09 11 000 9991	14.68
09 00 000 5206	80.20			09 11 000 6227	14.15	09 11 000 9996	14.69
09 00 000 5207	80.20	09 11 000 6104	14.15	09 11 000 6228	14.15	09 11 000 9997	14.69
09 00 000 5208	80.20	09 11 000 6112	06.13	09 11 000 6229	14.15	09 11 000 9998	14.69
09 00 000 5209	80.20	09 11 000 6112	42.6	09 11 000 6231	06.16	09 11 000 9999	14.69
09 00 000 5210	80.21	09 11 000 6113	06.13	09 11 000 6232	06.16		
09 00 000 5211	80.21	09 11 000 6113	42.6	09 11 000 6233	06.16	09 11 001 2651	14.23
09 00 000 5221	80.7	09 11 000 6114	06.11	09 11 000 6235	06.11	09 11 001 2652	14.23
09 00 000 5222	80.7	09 11 000 6114	06.13	09 11 000 6235	06.13	09 11 001 2655	14.23
09 00 000 5223	80.7	09 11 000 6114	42.6	09 11 000 6235	42.6	09 11 001 2671	14.45
09 00 000 5224	80.7	09 11 000 6116	06.11	09 11 000 6239	14.22	09 11 001 2672	14.45
09 00 000 5225	80.7	09 11 000 6116	06.13	09 11 000 6239	14.67	09 11 001 2675	14.45
09 00 000 5228	80.7	09 11 000 6116	42.6	09 11 000 6240	14.22	09 11 001 2751	14.23
09 00 000 5229	80.7	09 11 000 6120	06.9	09 11 000 6240	14.67	09 11 001 2752	14.23
09 00 000 5230	80.7	09 11 000 6121	06.9	09 11 000 6241	14.22	09 11 001 2755	14.23
09 00 000 5231	80.7	09 11 000 6122	06.9	09 11 000 6241	14.67	09 11 001 2771	14.45
09 00 000 5235	80.21	09 11 000 6123	06.9	09 11 000 6242	14.22	09 11 001 2772	14.45
09 00 000 5241	80.7	09 11 000 6125	06.11	09 11 000 6242	14.67	09 11 001 2775	14.45
09 00 000 5242	80.7	09 11 000 6125	06.13	09 11 000 6243	14.22	09 11 001 3001	14.22
09 00 000 5244	13.52	09 11 000 6125	42.6	09 11 000 6243	14.67	09 11 001 3012	14.44
09 00 000 5244	80.7	09 11 000 6126	14.15	09 11 000 6244	14.22	09 11 001 3021	14.15
09 00 000 5246	80.7	09 11 000 6127	14.15	09 11 000 6244	14.67	09 11 001 3101	14.22
09 00 000 5256	80.21	09 11 000 6128	14.15	09 11 000 6256	14.23	09 11 001 3112	14.44
09 00 000 5257	80.21	09 11 000 6129	14.15	09 11 000 6261	14.44	09 11 001 3121	14.15
09 00 000 5258	80.21	09 11 000 6131	06.16	09 11 000 6262	14.44		
09 00 000 5280	80.21	09 11 000 6132	06.16	09 11 000 6263	14.44	09 11 003 3032	14.71
09 00 000 5298	80.21	09 11 000 6133	06.16	09 11 000 6264	14.44	09 11 003 3132	14.71
09 00 000 5315	80.14	09 11 000 6135	06.11	09 11 000 6265	14.44		
09 00 000 5316	80.14	09 11 000 6135	06.13	09 11 000 6268	14.44	09 12 000 9901	13.24
09 00 000 5317	80.14	09 11 000 6135	42.6	09 11 000 9925	14.17	09 12 000 9901	29.7
09 00 000 5325	80.14	09 11 000 6139	14.22	09 11 000 9926	14.18	09 12 000 9901	29.8
09 00 000 5339	80.29	09 11 000 6139	14.67	09 11 000 9937	14.19	09 12 000 9901	29.9
09 00 000 5340	80.29	09 11 000 6140	14.22	09 11 000 9938	14.20	09 12 000 9901	29.10
09 00 000 5341	80.20	09 11 000 6140	14.67	09 11 000 9951	14.25	09 12 000 9902	13.24
09 00 000 5342	80.20	09 11 000 6141	14.22	09 11 000 9952	14.27	09 12 000 9902	29.7
09 00 000 5350	80.13	09 11 000 6141	14.67	09 11 000 9954	14.41	09 12 000 9902	29.8
09 00 000 5351	80.13	09 11 000 6142	14.22	09 11 000 9955	14.42	09 12 000 9902	29.9
09 00 000 5352	80.13	09 11 000 6142	14.67	09 11 000 9956	14.29	09 12 000 9902	29.10
09 00 000 5353	80.13	09 11 000 6143	14.22	09 11 000 9957	14.33	09 12 000 9905	20.26
09 00 000 5354	80.13	09 11 000 6143	14.67	09 11 000 9957	14.35	09 12 000 9905	20.26
09 00 000 5355	80.13	09 11 000 6144	14.22	09 11 000 9957	14.58	09 12 000 9908	20.29
09 00 000 5356	80.13	09 11 000 6144	14.67	09 11 000 9958	14.33	09 12 000 9908	20.29
09 00 000 5357	80.13	09 11 000 6156	14.23	09 11 000 9958	14.35	09 12 000 9911	13.52
09 00 000 5358	80.13	09 11 000 6161	14.44	09 11 000 9958	14.58	09 12 000 9912	13.52
09 00 000 5359	80.13	09 11 000 6162	14.44	09 11 000 9963	14.30	09 12 000 9921	80.31
09 00 000 5360	80.13	09 11 000 6163	14.44	09 11 000 9963	14.32	09 12 000 9922	13.3
09 00 000 5361	80.13	09 11 000 6164	14.44	09 11 000 9964	14.36	09 12 000 9922	13.3
09 00 000 5362	80.13	09 11 000 6165	14.44	09 11 000 9964	14.39	09 12 000 9922	13.5
09 00 000 5363	80.13	09 11 000 6168	14.44	09 11 000 9964	14.59	09 12 000 9922	13.5
09 00 000 5364	80.13	09 11 000 6204	14.15	09 11 000 9965	14.37	09 12 000 9922	13.7
09 00 000 5401	80.7	09 11 000 6212	06.13	09 11 000 9965	14.39	09 12 000 9922	13.7
09 00 000 5602	80.22	09 11 000 6212	42.6	09 11 000 9965	14.59	09 12 000 9922	13.9
09 00 000 5603	80.22	09 11 000 6213	06.13	09 11 000 9971	14.47	09 12 000 9922	13.9
		09 11 000 6213	42.6	09 11 000 9972	14.48	09 12 000 9924	13.11
09 00 016 5603	80.23	09 11 000 6214	06.11	09 11 000 9972	14.49	09 12 000 9924	13.11
		09 11 000 6214	06.13	09 11 000 9973	14.50	09 12 000 9924	13.13
09 00 024 5601	80.23	09 11 000 6214	42.6	09 11 000 9973	14.53	09 12 000 9924	13.13
09 00 024 5611	80.23	09 11 000 6216	06.11	09 11 000 9973	14.51	09 12 000 9924	13.32
		09 11 000 6216	06.13	09 11 000 9973	14.59	09 12 000 9924	13.32
09 08 000 6123	20.12	09 11 000 6216	42.6	09 11 000 9974	14.50	09 12 000 9958	06.63
09 08 000 6124	20.12	09 11 000 6220	06.9	09 11 000 9974	14.53	09 12 000 9969	15.24

List of part numbers



part numbers	page	part numbers	page	part numbers	page	part numbers	page
09 12 000 9970	15.24	09 12 006 2794	19.9	09 12 708 0301	13.46	09 14 001 0422	06.113
09 12 000 9971	15.24	09 12 006 2795	19.9			09 14 001 0423	06.115
09 12 000 9972	15.24	09 12 006 3001	19.8	09 14 000 0304	06.118	09 14 001 0430	42.8
09 12 000 9973	15.24	09 12 006 3041	13.15	09 14 000 0312	06.117	09 14 001 0720	06.114
09 12 000 9974	15.24	09 12 006 3111	19.7	09 14 000 0313	06.118	09 14 001 0721	06.116
		09 12 006 3141	13.15	09 14 000 6111	06.86	09 14 001 0722	06.114
09 12 001 2774	19.23	09 12 006 9901	20.23	09 14 000 6111	06.88	09 14 001 0723	06.116
09 12 001 2794	19.22	09 12 006 9901	20.23	09 14 000 6115	06.87	09 14 001 0730	42.8
09 12 001 3071	19.23			09 14 000 6121	06.86	09 14 001 2662	06.8
09 12 001 3091	19.22	09 12 007 3001	13.24	09 14 000 6121	06.88	09 14 001 2663	06.8
		09 12 007 3101	13.24	09 14 000 6151	06.91	09 14 001 2667	06.9
				09 14 000 6152	06.91	09 14 001 2668	06.9
09 12 002 2651	13.7	09 12 008 0301	13.46	09 14 000 6153	06.91	09 14 001 2762	06.8
09 12 002 2652	13.9	09 12 008 0303	13.49	09 14 000 6174	06.90	09 14 001 2763	06.8
09 12 002 2653	13.7	09 12 008 0327	13.41	09 14 000 6211	06.86	09 14 001 2767	06.9
09 12 002 2654	13.9	09 12 008 0327	20.24	09 14 000 6211	06.88	09 14 001 2768	06.9
09 12 002 2751	13.7	09 12 008 0327	20.33	09 14 000 6215	06.87	09 14 001 3001	06.8
09 12 002 2752	13.9	09 12 008 0427	13.40	09 14 000 6221	06.86	09 14 001 3011	06.69
09 12 002 2753	13.7	09 12 008 0428	13.40	09 14 000 6221	06.88	09 14 001 3011	06.71
09 12 002 2754	13.9	09 12 008 0429	13.40	09 14 000 6251	06.91	09 14 001 3011	06.73
09 12 002 3051	13.3	09 12 008 0527	13.40	09 14 000 6252	06.91	09 14 001 3031	06.13
09 12 002 3052	13.5	09 12 008 0727	13.42	09 14 000 6253	06.91	09 14 001 3032	42.6
09 12 002 3151	13.3	09 12 008 0728	13.42	09 14 000 6256	06.91	09 14 001 3101	06.8
09 12 002 3152	13.5	09 12 008 0901	13.42	09 14 000 6257	06.91	09 14 001 3111	06.69
		09 12 008 0902	13.41	09 14 000 6258	06.91	09 14 001 3111	06.71
09 12 003 2770	19.20	09 12 008 2633	13.26	09 14 000 6274	06.90	09 14 001 3111	06.73
09 12 003 2774	19.20	09 12 008 2634	13.26	09 14 000 6279	06.90	09 14 001 3131	06.13
09 12 003 2776	19.21	09 12 008 2733	13.26	09 14 000 6290	80.25	09 14 001 3132	42.6
09 12 003 3011	19.20	09 12 008 2734	13.26	09 14 000 9901	80.24	09 14 001 4601	06.59
09 12 003 3021	19.20	09 12 008 3001	13.28	09 14 000 9908	80.24	09 14 001 4611	06.60
09 12 003 3031	19.20	09 12 008 3101	13.28	09 14 000 9909	80.24	09 14 001 4611	06.60
09 12 003 3051	13.11	09 12 008 4620	15.7	09 14 000 9912	06.117	09 14 001 4622	06.63
09 12 003 3151	13.11	09 12 008 4620	15.7	09 14 000 9915	06.78	09 14 001 4623	06.62
		09 12 008 4650	15.9	09 14 000 9915	06.78	09 14 001 4623	06.64
09 12 004 2601	19.12	09 12 008 4720	15.21	09 14 000 9915	06.80	09 14 001 4651	06.59
09 12 004 2603	19.12	09 12 008 4751	15.19	09 14 000 9915	06.80	09 14 001 4701	06.59
09 12 004 2606	19.12	09 12 008 4752	15.17	09 14 000 9924	06.110	09 14 001 4703	06.59
09 12 004 2611	19.11	09 12 008 4760	15.23	09 14 000 9924	06.110	09 14 001 4703	06.59
09 12 004 2701	19.12	09 12 008 4801	15.13	09 14 000 9928	06.111	09 14 001 4711	06.60
09 12 004 2711	19.11	09 12 008 4802	15.15	09 14 000 9929	06.114	09 14 001 4721	06.61
09 12 004 2713	19.11	09 12 008 4802	15.15	09 14 000 9929	06.116	09 14 001 5401	06.107
09 12 004 2716	19.11	09 12 008 4804	15.3	09 14 000 9930	06.56	09 14 001 5402	06.106
09 12 004 3051	13.13	09 12 008 4806	15.3	09 14 000 9931	06.56	09 14 001 9901	42.8
09 12 004 3151	13.13	09 12 008 4807	15.5	09 14 000 9931	06.56		
		09 12 008 4807	15.5	09 14 000 9932	06.56		
		09 12 008 4811	15.13	09 14 000 9932	06.56	09 14 002 0301	06.111
		09 12 008 4811	15.13	09 14 000 9933	06.56	09 14 002 0311	06.110
		09 12 008 4901	15.11	09 14 000 9933	06.56	09 14 002 0311	06.110
		09 12 008 4901	15.11	09 14 000 9936	06.104	09 14 002 2601	06.20
09 12 005 2633	13.19	09 12 008 4951	15.11	09 14 000 9936	16.29	09 14 002 2601	06.20
09 12 005 2634	13.19	09 12 008 5407	13.41	09 14 000 9936	16.29	09 14 002 2602	06.20
09 12 005 2634	13.19	09 12 008 5407	13.41	09 14 000 9938	42.9	09 14 002 2602	06.20
09 12 005 2733	13.19	09 12 008 5408	13.41	09 14 000 9940	80.8	09 14 002 2603	20.19
09 12 005 2734	13.19	09 12 008 9901	20.32	09 14 000 9940	80.8	09 14 002 2603	20.19
09 12 005 2734	13.19	09 12 008 9901	20.32	09 14 000 9947	06.107	09 14 002 2641	06.15
09 12 005 3001	13.21	09 12 008 9901	20.32	09 14 000 9947	06.107	09 14 002 2641	06.15
09 12 005 3101	13.21			09 14 000 9950	06.117	09 14 002 2642	06.15
				09 14 000 9953	80.32	09 14 002 2642	06.15
		09 12 011 3001	13.38	09 14 000 9953	80.32	09 14 002 2646	06.16
		09 12 011 3111	13.38	09 14 000 9954	80.32	09 14 002 2647	06.16
				09 14 000 9960	06.117	09 14 002 2647	06.16
				09 14 000 9960	06.117	09 14 002 2650	06.11
				09 14 000 9965	06.93	09 14 002 2651	06.11
09 12 006 2611	19.7			09 14 000 9965	06.93	09 14 002 2651	06.11
09 12 006 2662	13.17	09 12 012 3001	13.31	09 14 000 9965	06.93	09 14 002 2653	06.11
09 12 006 2663	13.17	09 12 012 3001	13.31	09 14 000 9966	06.62	09 14 002 2653	06.11
09 12 006 2663	13.17	09 12 012 3002	20.35	09 14 000 9966	06.62	09 14 002 2701	06.20
09 12 006 2665	13.17	09 12 012 3004	13.31	09 14 000 9971	06.108	09 14 002 2702	06.20
09 12 006 2666	13.17	09 12 012 3101	13.31	09 14 000 9971	06.108	09 14 002 2702	06.20
09 12 006 2691	19.9	09 12 012 3101	13.31	09 14 000 9972	06.108	09 14 002 2703	20.19
09 12 006 2692	19.9	09 12 012 3102	20.35	09 14 000 9972	06.108	09 14 002 2703	20.19
09 12 006 2692	19.9	09 12 012 3102	20.35	09 14 000 9973	06.108	09 14 002 2741	06.16
09 12 006 2694	19.9	09 12 012 3104	13.31	09 14 000 9973	06.108	09 14 002 2741	06.16
09 12 006 2694	19.9	09 12 012 3104	13.31	09 14 000 9974	06.108	09 14 002 2742	06.16
09 12 006 2695	19.9	09 12 012 9901	20.35			09 14 002 2742	06.16
09 12 006 2695	19.9	09 12 012 9901	20.35			09 14 002 2750	06.11
09 12 006 2701	19.8	09 12 012 9901	20.35	09 14 001 0301	06.107	09 14 002 2751	06.11
09 12 006 2701	19.8			09 14 001 0301	06.107	09 14 002 2751	06.11
09 12 006 2762	13.17			09 14 001 0311	06.106	09 14 002 2753	06.11
09 12 006 2762	13.17	09 12 017 3001	13.34	09 14 001 0311	06.106	09 14 002 2753	06.11
09 12 006 2763	13.17	09 12 017 3101	13.34	09 14 001 0320	06.113	09 14 002 3001	06.78
09 12 006 2765	13.17	09 12 017 3101	13.34	09 14 001 0320	06.113	09 14 002 3001	06.78
09 12 006 2766	13.17			09 14 001 0321	06.115	09 14 002 3001	06.80
09 12 006 2766	13.17			09 14 001 0330	42.8	09 14 002 3001	06.82
09 12 006 2791	19.9	09 12 021 3001	13.36	09 14 001 0330	42.8	09 14 002 3001	06.82
09 12 006 2791	19.9	09 12 021 3001	13.36	09 14 001 0420	06.113	09 14 002 3001	06.84
09 12 006 2792	19.9	09 12 021 3101	13.36	09 14 001 0420	06.113	09 14 002 3002	06.20
09 12 006 2792	19.9	09 12 021 3101	13.36	09 14 001 0421	06.115	09 14 002 3002	06.20

List of part numbers



part numbers	page	part numbers	page	part numbers	page	part numbers	page
09 14 002 3021	06.45	09 14 007 3001	06.26	09 14 025 3101	06.54	09 15 000 6104	13.24
09 14 002 3023	06.44	09 14 007 3101	06.26			09 15 000 6104	13.34
09 14 002 3025	06.47			09 14 206 0303	06.97	09 15 000 6104	13.32
09 14 002 3041	06.15	09 14 008 2633	06.37	09 14 206 0303	16.22	09 15 000 6105	02.23
09 14 002 3051	06.11	09 14 008 2634	06.37	09 14 206 0313	06.97	09 15 000 6105	02.14
09 14 002 3101	06.78	09 14 008 2733	06.37	09 14 206 0313	16.22	09 15 000 6105	05.11
09 14 002 3101	06.80	09 14 008 2734	06.37			09 15 000 6105	05.20
09 14 002 3101	06.82	09 14 008 3001	06.37	09 14 210 0303	06.98	09 15 000 6105	05.23
09 14 002 3101	06.84	09 14 008 3001	16.35	09 14 210 0303	16.23	09 15 000 6105	06.52
09 14 002 3102	06.20	09 14 008 3011	06.69	09 14 210 0313	06.98	09 15 000 6105	06.26
09 14 002 3121	06.45	09 14 008 3016	06.73	09 14 210 0313	16.23	09 15 000 6105	06.50
09 14 002 3123	06.44	09 14 008 3017	06.73			09 15 000 6105	13.15
09 14 002 3125	06.47	09 14 008 3101	06.37	09 14 216 0303	06.99	09 15 000 6105	13.24
09 14 002 3141	06.15	09 14 008 3101	16.35	09 14 216 0303	16.24	09 15 000 6105	13.34
09 14 002 3151	06.11	09 14 008 3111	06.69	09 14 216 0313	06.99	09 15 000 6105	13.32
09 14 002 4501	06.90	09 14 008 3116	06.73	09 14 216 0313	16.24	09 15 000 6106	02.23
09 14 002 4501	06.90	09 14 008 3117	06.73			09 15 000 6106	02.14
09 14 002 5401	06.111			09 14 224 0303	06.100	09 15 000 6106	05.11
		09 14 009 3001	06.56	09 14 224 0303	16.25	09 15 000 6106	05.20
09 14 003 2601	06.22	09 14 009 3101	06.56	09 14 224 0313	06.100	09 15 000 6106	05.23
09 14 003 2602	06.22	09 14 009 3151	06.56	09 14 224 0313	16.25	09 15 000 6106	06.52
09 14 003 2701	06.22					09 15 000 6106	06.26
09 14 003 2702	06.22	09 14 010 0303	06.98	09 15 000 6101	02.23	09 15 000 6106	06.50
09 14 003 3001	06.22	09 14 010 0313	06.98	09 15 000 6101	02.14	09 15 000 6106	13.15
09 14 003 3101	06.22	09 14 010 1701	06.102	09 15 000 6101	05.11	09 15 000 6106	13.24
09 14 003 4501	06.91	09 14 010 1701	16.27	09 15 000 6101	05.20	09 15 000 6106	13.34
09 14 003 4501	06.91	09 14 010 1711	06.102	09 15 000 6101	05.23	09 15 000 6106	13.32
		09 14 010 1711	16.27	09 15 000 6101	06.52	09 15 000 6121	02.23
09 14 004 3041	06.24			09 15 000 6101	06.26	09 15 000 6121	02.14
09 14 004 3141	06.24	09 14 012 2632	06.49	09 15 000 6101	06.50	09 15 000 6121	05.11
09 14 004 4501	06.86	09 14 012 2634	06.49	09 15 000 6101	13.15	09 15 000 6121	05.20
09 14 004 4501	06.87	09 14 012 2732	06.49	09 15 000 6101	13.24	09 15 000 6121	05.23
09 14 004 4512	06.86	09 14 012 2734	06.49	09 15 000 6101	13.34	09 15 000 6121	06.52
09 14 004 4513	06.87	09 14 012 3001	06.49	09 15 000 6101	13.32	09 15 000 6121	06.78
09 14 004 4701	06.93	09 14 012 3001	16.39	09 15 000 6102	02.23	09 15 000 6121	06.82
09 14 004 4711	06.93	09 14 012 3101	06.49	09 15 000 6102	02.14	09 15 000 6121	06.26
		09 14 012 3101	16.39	09 15 000 6102	05.11	09 15 000 6121	06.50
09 14 005 2601	06.32	09 14 012 4501	06.88	09 15 000 6102	05.20	09 15 000 6121	06.74
09 14 005 2616	06.42	09 14 012 4512	06.88	09 15 000 6102	05.23	09 15 000 6121	13.15
09 14 005 2617	06.42			09 15 000 6102	06.52	09 15 000 6121	13.24
09 14 005 2646	06.18	09 14 016 0303	06.99	09 15 000 6102	06.26	09 15 000 6121	13.34
09 14 005 2647	06.18	09 14 016 0313	06.99	09 15 000 6102	06.50	09 15 000 6121	13.31
09 14 005 2701	06.32	09 14 016 1701	06.103	09 15 000 6102	13.15	09 15 000 6121	19.14
09 14 005 2716	06.42	09 14 016 1701	16.28	09 15 000 6102	13.24	09 15 000 6121	19.15
09 14 005 2717	06.42	09 14 016 1711	06.103	09 15 000 6102	13.34	09 15 000 6121	19.17
09 14 005 2741	06.18	09 14 016 1711	16.28	09 15 000 6102	13.32	09 15 000 6122	02.23
09 14 005 2742	06.18			09 15 000 6103	02.23	09 15 000 6122	02.14
		09 14 017 3001	06.52	09 15 000 6103	02.14	09 15 000 6122	05.11
09 14 006 0303	06.97	09 14 017 3001	16.41	09 15 000 6103	05.11	09 15 000 6122	05.20
09 14 006 0313	06.97	09 14 017 3101	06.52	09 15 000 6103	05.20	09 15 000 6122	05.23
09 14 006 1701	06.102	09 14 017 3101	16.41	09 15 000 6103	05.23	09 15 000 6122	06.52
09 14 006 1701	16.27			09 15 000 6103	06.52	09 15 000 6122	06.78
09 14 006 1711	06.102	09 14 020 3001	06.40	09 15 000 6103	06.26	09 15 000 6122	06.82
09 14 006 1711	16.27	09 14 020 3001	16.37	09 15 000 6103	06.50	09 15 000 6122	06.26
09 14 006 2633	06.29	09 14 020 3013	06.71	09 15 000 6103	13.15	09 15 000 6122	06.50
09 14 006 2733	06.29	09 14 020 3101	06.40	09 15 000 6103	13.24	09 15 000 6122	06.74
09 14 006 3001	06.29	09 14 020 3101	16.37	09 15 000 6103	13.34	09 15 000 6122	13.15
09 14 006 3001	16.31	09 14 020 3113	06.71	09 15 000 6103	13.32	09 15 000 6122	13.24
09 14 006 3041	06.34			09 15 000 6104	02.23	09 15 000 6122	13.34
09 14 006 3041	16.33	09 14 024 0303	06.100	09 15 000 6104	02.14	09 15 000 6122	13.31
09 14 006 3101	06.29	09 14 024 0313	06.100	09 15 000 6104	05.11	09 15 000 6122	19.14
09 14 006 3101	16.31	09 14 024 1701	06.103	09 15 000 6104	05.20	09 15 000 6122	19.15
09 14 006 3141	06.34	09 14 024 1701	16.28	09 15 000 6104	05.23	09 15 000 6122	19.17
09 14 006 3141	16.33	09 14 024 1711	06.103	09 15 000 6104	06.52	09 15 000 6123	02.23
09 14 006 4701	06.95	09 14 024 1711	16.28	09 15 000 6104	06.26	09 15 000 6123	02.14
09 14 006 4711	06.95			09 15 000 6104	06.50	09 15 000 6123	05.11
		09 14 025 3001	06.54	09 15 000 6104	13.15	09 15 000 6123	05.20

List of part numbers



part numbers	page	part numbers	page	part numbers	page	part numbers	page
09 15 000 6123	05.23	09 15 000 6126	19.17	09 15 000 6205	13.34	09 15 000 6223	19.17
09 15 000 6123	06.52	09 15 000 6161	41.2	09 15 000 6205	13.32	09 15 000 6224	02.23
09 15 000 6123	06.78	09 15 000 6171	41.2	09 15 000 6206	02.23	09 15 000 6224	02.14
09 15 000 6123	06.82	09 15 000 6190	20.29	09 15 000 6206	02.14	09 15 000 6224	05.11
09 15 000 6123	06.26	09 15 000 6191	20.14	09 15 000 6206	05.11	09 15 000 6224	05.20
09 15 000 6123	06.50	09 15 000 6191	20.15	09 15 000 6206	05.20	09 15 000 6224	05.23
09 15 000 6123	06.74	09 15 000 6191	20.23	09 15 000 6206	05.23	09 15 000 6224	06.52
09 15 000 6123	13.15	09 15 000 6191	20.35	09 15 000 6206	06.52	09 15 000 6224	06.78
09 15 000 6123	13.24	09 15 000 6197	20.17	09 15 000 6206	06.26	09 15 000 6224	06.82
09 15 000 6123	13.34	09 15 000 6201	02.23	09 15 000 6206	06.50	09 15 000 6224	06.26
09 15 000 6123	13.31	09 15 000 6201	02.14	09 15 000 6206	13.15	09 15 000 6224	06.50
09 15 000 6123	19.14	09 15 000 6201	05.11	09 15 000 6206	13.24	09 15 000 6224	06.74
09 15 000 6123	19.15	09 15 000 6201	05.20	09 15 000 6206	13.34	09 15 000 6224	13.15
09 15 000 6123	19.17	09 15 000 6201	05.23	09 15 000 6206	13.32	09 15 000 6224	13.24
09 15 000 6124	02.23	09 15 000 6201	06.52	09 15 000 6221	02.23	09 15 000 6224	13.34
09 15 000 6124	02.14	09 15 000 6201	06.26	09 15 000 6221	02.14	09 15 000 6224	13.31
09 15 000 6124	05.11	09 15 000 6201	06.50	09 15 000 6221	05.11	09 15 000 6224	19.14
09 15 000 6124	05.20	09 15 000 6201	13.15	09 15 000 6221	05.20	09 15 000 6224	19.15
09 15 000 6124	05.23	09 15 000 6201	13.24	09 15 000 6221	05.23	09 15 000 6224	19.17
09 15 000 6124	06.52	09 15 000 6201	13.34	09 15 000 6221	06.52	09 15 000 6225	02.23
09 15 000 6124	06.78	09 15 000 6201	13.32	09 15 000 6221	06.78	09 15 000 6225	02.14
09 15 000 6124	06.82	09 15 000 6202	02.23	09 15 000 6221	06.82	09 15 000 6225	05.11
09 15 000 6124	06.26	09 15 000 6202	02.14	09 15 000 6221	06.26	09 15 000 6225	05.20
09 15 000 6124	06.50	09 15 000 6202	05.11	09 15 000 6221	06.50	09 15 000 6225	05.23
09 15 000 6124	06.74	09 15 000 6202	05.20	09 15 000 6221	06.74	09 15 000 6225	06.52
09 15 000 6124	13.15	09 15 000 6202	05.23	09 15 000 6221	13.15	09 15 000 6225	06.78
09 15 000 6124	13.24	09 15 000 6202	06.52	09 15 000 6221	13.24	09 15 000 6225	06.82
09 15 000 6124	13.34	09 15 000 6202	06.26	09 15 000 6221	13.34	09 15 000 6225	06.26
09 15 000 6124	13.31	09 15 000 6202	06.50	09 15 000 6221	13.31	09 15 000 6225	06.50
09 15 000 6124	19.14	09 15 000 6202	13.15	09 15 000 6221	19.14	09 15 000 6225	06.74
09 15 000 6124	19.15	09 15 000 6202	13.24	09 15 000 6221	19.15	09 15 000 6225	13.15
09 15 000 6124	19.17	09 15 000 6202	13.34	09 15 000 6221	19.17	09 15 000 6225	13.24
09 15 000 6125	02.23	09 15 000 6202	13.32	09 15 000 6222	02.23	09 15 000 6225	13.34
09 15 000 6125	02.14	09 15 000 6203	02.23	09 15 000 6222	02.14	09 15 000 6225	13.31
09 15 000 6125	05.11	09 15 000 6203	02.14	09 15 000 6222	05.11	09 15 000 6225	19.14
09 15 000 6125	05.20	09 15 000 6203	05.11	09 15 000 6222	05.20	09 15 000 6225	19.15
09 15 000 6125	05.23	09 15 000 6203	05.20	09 15 000 6222	05.23	09 15 000 6225	19.17
09 15 000 6125	06.52	09 15 000 6203	05.23	09 15 000 6222	06.52	09 15 000 6226	02.23
09 15 000 6125	06.78	09 15 000 6203	06.52	09 15 000 6222	06.78	09 15 000 6226	02.14
09 15 000 6125	06.82	09 15 000 6203	06.26	09 15 000 6222	06.82	09 15 000 6226	05.11
09 15 000 6125	06.26	09 15 000 6203	06.50	09 15 000 6222	06.26	09 15 000 6226	05.20
09 15 000 6125	06.50	09 15 000 6203	13.15	09 15 000 6222	06.50	09 15 000 6226	05.23
09 15 000 6125	06.74	09 15 000 6203	13.24	09 15 000 6222	06.74	09 15 000 6226	06.52
09 15 000 6125	13.15	09 15 000 6203	13.34	09 15 000 6222	13.15	09 15 000 6226	06.78
09 15 000 6125	13.24	09 15 000 6203	13.32	09 15 000 6222	13.24	09 15 000 6226	06.82
09 15 000 6125	13.34	09 15 000 6204	02.23	09 15 000 6222	13.34	09 15 000 6226	06.26
09 15 000 6125	13.31	09 15 000 6204	02.14	09 15 000 6222	13.31	09 15 000 6226	06.50
09 15 000 6125	19.14	09 15 000 6204	05.11	09 15 000 6222	19.14	09 15 000 6226	06.74
09 15 000 6125	19.15	09 15 000 6204	05.20	09 15 000 6222	19.15	09 15 000 6226	13.15
09 15 000 6125	19.17	09 15 000 6204	05.23	09 15 000 6222	19.17	09 15 000 6226	13.24
09 15 000 6126	02.23	09 15 000 6204	06.52	09 15 000 6223	02.23	09 15 000 6226	13.34
09 15 000 6126	02.14	09 15 000 6204	06.26	09 15 000 6223	02.14	09 15 000 6226	13.31
09 15 000 6126	05.11	09 15 000 6204	06.50	09 15 000 6223	05.11	09 15 000 6226	19.14
09 15 000 6126	05.20	09 15 000 6204	13.15	09 15 000 6223	05.20	09 15 000 6226	19.15
09 15 000 6126	05.23	09 15 000 6204	13.24	09 15 000 6223	05.23	09 15 000 6226	19.17
09 15 000 6126	06.52	09 15 000 6204	13.34	09 15 000 6223	06.52	09 15 000 6261	41.2
09 15 000 6126	06.78	09 15 000 6204	13.32	09 15 000 6223	06.78	09 15 000 6271	41.2
09 15 000 6126	06.82	09 15 000 6205	02.23	09 15 000 6223	06.82	09 15 000 6290	20.29
09 15 000 6126	06.26	09 15 000 6205	02.14	09 15 000 6223	06.26	09 15 000 6291	20.14
09 15 000 6126	06.50	09 15 000 6205	05.11	09 15 000 6223	06.50	09 15 000 6291	20.17
09 15 000 6126	06.74	09 15 000 6205	05.20	09 15 000 6223	06.74	09 15 000 6293	20.23
09 15 000 6126	13.15	09 15 000 6205	05.23	09 15 000 6223	13.15	09 15 000 6294	20.15
09 15 000 6126	13.24	09 15 000 6205	06.52	09 15 000 6223	13.24	09 15 000 6297	20.35
09 15 000 6126	13.34	09 15 000 6205	06.26	09 15 000 6223	13.34		
09 15 000 6126	13.31	09 15 000 6205	06.50	09 15 000 6223	13.31	09 15 001 3013	06.82
09 15 000 6126	19.14	09 15 000 6205	13.15	09 15 000 6223	19.14	09 15 001 3013	19.17
09 15 000 6126	19.15	09 15 000 6205	13.24	09 15 000 6223	19.15	09 15 001 3023	06.84

List of part numbers



part numbers	page	part numbers	page	part numbers	page	part numbers	page
09 15 001 3023	19.18	09 16 000 9915	20.17	09 20 003 2611	01.3	09 20 016 2812	01.9
09 15 001 3113	06.82	09 16 000 9915	20.17	09 20 003 2633	01.3	09 20 016 2813	01.9
09 15 001 3113	19.17			09 20 003 2634	01.3	09 20 016 2814	01.7
09 15 001 3123	06.84	09 16 024 3001	02.17	09 20 003 2711	01.3	09 20 016 2814	01.10
09 15 001 3123	19.18	09 16 024 3101	02.17	09 20 003 2733	01.3	09 20 016 2815	01.10
				09 20 003 2734	01.3	09 20 016 2891	41.5
09 15 003 3001	19.14	09 16 042 3001	02.18	09 20 003 5407	31.14	09 20 016 3001	01.7
09 15 003 3101	19.14	09 16 042 3101	02.18	09 20 003 5408	19.34	09 20 016 3001	01.8
				09 20 003 5408	31.15	09 20 016 3011	01.8
09 15 004 3013	06.78	09 16 072 3001	02.19	09 20 003 5409	19.34	09 20 016 3101	01.7
09 15 004 3013	19.15	09 16 072 3001	02.21	09 20 003 5409	31.15	09 20 016 3101	01.8
09 15 004 3113	06.78	09 16 072 3011	02.21	09 20 003 5421	31.5	09 20 016 3111	01.8
09 15 004 3113	19.15	09 16 072 3101	02.19	09 20 003 5422	19.28	09 20 016 5423	31.21
		09 16 072 3101	02.21	09 20 003 5422	31.6	09 20 016 5423	31.21
		09 16 072 3111	02.21	09 20 003 5425	19.29	09 20 016 5425	31.22
09 15 008 3013	06.80			09 20 003 5425	31.9	09 20 016 5425	31.22
09 15 008 3013	19.16	09 16 108 3001	02.20	09 20 003 5426	31.9		
09 15 008 3113	06.80	09 16 108 3001	02.22	09 20 003 5427	19.29	09 20 032 0301	31.24
09 15 008 3113	19.16	09 16 108 3011	02.22	09 20 003 5427	31.8	09 20 032 0302	31.24
		09 16 108 3101	02.20	09 20 003 5427	31.8	09 20 032 5401	31.25
09 15 200 6121	16.11	09 16 108 3101	02.22	09 20 003 5428	31.8	09 20 032 5401	31.25
09 15 200 6121	16.39	09 16 108 3101	02.22	09 20 003 5441	31.12	09 20 032 5405	31.25
09 15 200 6121	16.41	09 16 108 3111	02.22	09 20 003 5442	19.32	09 20 032 5405	31.25
09 15 200 6122	16.11			09 20 003 5442	31.12		
09 15 200 6122	16.39	09 16 208 3001	16.10	09 20 003 5445	19.33		
09 15 200 6122	16.41	09 16 208 3101	16.10	09 20 003 5445	31.14	09 21 000 9906	80.9
09 15 200 6123	16.11			09 20 003 5446	31.14	09 21 000 9971	08.26
09 15 200 6123	16.39	09 16 224 3001	16.7	09 20 003 5447	19.33		
09 15 200 6123	16.41	09 16 224 3101	16.7	09 20 003 5447	31.13	09 21 007 2632	02.3
09 15 200 6124	16.11			09 20 003 5448	31.13	09 21 007 2732	02.3
09 15 200 6124	16.39	09 16 242 3001	16.8	09 20 003 5449	19.34	09 21 007 3031	02.3
09 15 200 6124	16.41	09 16 242 3101	16.8	09 20 003 5449	31.14	09 21 007 3131	02.3
09 15 200 6125	16.11			09 20 003 5450	31.14		
09 15 200 6125	16.39	09 16 272 3001	16.9			09 21 015 2601	02.7
09 15 200 6125	16.41	09 16 272 3101	16.9	09 20 004 2611	01.4	09 21 015 2701	02.7
09 15 200 6126	16.11			09 20 004 2633	01.4	09 21 015 3001	02.7
09 15 200 6126	16.39	09 20 000 9918	80.31	09 20 004 2634	01.4	09 21 015 3101	02.7
09 15 200 6126	16.41	09 20 000 9919	80.32	09 20 004 2711	01.4		
09 15 200 6221	16.11	09 20 000 9925	80.2	09 20 004 2733	01.4	09 21 025 2601	02.8
09 15 200 6221	16.39	09 20 000 9925	80.3	09 20 004 2734	01.4	09 21 025 2601	02.10
09 15 200 6221	16.41	09 20 000 9928	80.2	09 20 004 4701	19.25	09 21 025 2701	02.8
09 15 200 6222	16.11	09 20 000 9929	80.2	09 20 004 4711	19.25	09 21 025 2701	02.10
09 15 200 6222	16.39	09 20 000 9931	80.3			09 21 025 3001	02.8
09 15 200 6222	16.41	09 20 000 9932	80.2	09 20 010 0301	31.18	09 21 025 3001	02.10
09 15 200 6223	16.11	09 20 000 9933	11.13	09 20 010 0321	31.18	09 21 025 3101	02.8
09 15 200 6223	16.39	09 20 000 9991	80.8	09 20 010 0801	31.17	09 21 025 3101	02.10
09 15 200 6223	16.41	09 20 000 9992	80.8	09 20 010 2612	01.6		
09 15 200 6224	16.11	09 20 000 9993	80.8	09 20 010 2614	01.6	09 21 040 2601	02.9
09 15 200 6224	16.39	09 20 000 9994	80.8	09 20 010 2812	01.6	09 21 040 2601	02.12
09 15 200 6224	16.41	09 20 000 9995	80.31	09 20 010 2814	01.6	09 21 040 2701	02.9
09 15 200 6225	16.11	09 20 000 9996	80.9	09 20 010 3001	01.6	09 21 040 2701	02.12
09 15 200 6225	16.39	09 20 000 9997	80.9	09 20 010 3101	01.6	09 21 040 3001	02.9
09 15 200 6225	16.41			09 20 010 5423	31.18	09 21 040 3001	02.12
09 15 200 6226	16.11	09 20 003 0301	19.28	09 20 010 5423	31.18	09 21 040 3101	02.9
09 15 200 6226	16.39	09 20 003 0301	20.30	09 20 010 5425	31.19	09 21 040 3101	02.12
09 15 200 6226	16.41	09 20 003 0301	31.6	09 20 010 5425	31.19	09 21 040 4601	08.5
		09 20 003 0305	31.6			09 21 040 4602	08.5
09 16 000 9903	80.31	09 20 003 0306	31.6	09 20 016 0301	31.21	09 21 040 4611	08.6
09 16 000 9905	20.14	09 20 003 0320	19.32	09 20 016 0321	31.21	09 21 040 4612	08.6
09 16 000 9905	20.14	09 20 003 0320	31.12	09 20 016 0801	31.20	09 21 040 4701	08.5
09 16 000 9905	20.15	09 20 003 0327	19.33	09 20 016 2612	01.7	09 21 040 4702	08.5
09 16 000 9905	20.15	09 20 003 0327	31.12	09 20 016 2612	01.9	09 21 040 4711	08.6
09 16 000 9905	20.17	09 20 003 0801	31.7	09 20 016 2613	01.9	09 21 040 4712	08.6
09 16 000 9905	20.17	09 20 003 0810	31.7	09 20 016 2614	01.7		
09 16 000 9908	20.14	09 20 003 0820	19.32	09 20 016 2614	01.10	09 21 064 2601	02.11
09 16 000 9908	20.14	09 20 003 0820	31.12	09 20 016 2615	01.10	09 21 064 2601	02.13
09 16 000 9908	20.15	09 20 003 0827	19.33	09 20 016 2691	41.5	09 21 064 2701	02.11
09 16 000 9908	20.15	09 20 003 0827	31.12	09 20 016 2812	01.7	09 21 064 2701	02.13

List of part numbers



part numbers	page	part numbers	page	part numbers	page	part numbers	page
09 21 064 3001	02.11	09 30 006 5423	31.28	09 30 016 5422	31.47	09 30 410 0909	31.78
09 21 064 3001	02.13	09 30 006 5425	31.31	09 30 016 5422	31.47	09 30 410 0921	31.78
09 21 064 3101	02.11	09 30 006 5425	31.31	09 30 016 5425	31.48	09 30 410 0951	31.78
09 21 064 3101	02.13	09 30 006 5427	31.30	09 30 016 5425	31.48	09 30 410 0960	31.78
09 21 064 4601	08.7	09 30 006 5427	31.30	09 30 016 5426	31.48	09 30 410 0970	31.78
09 21 064 4602	08.7			09 30 016 5426	31.48	09 30 410 0971	31.78
09 21 064 4611	08.8	09 30 010 0301	31.34	09 30 016 5432	31.53	09 30 410 0974	31.78
09 21 064 4612	08.8	09 30 010 0302	31.38	09 30 016 5432	31.53	09 30 410 0983	31.78
09 21 064 4701	08.7	09 30 010 0303	31.41	09 30 016 9901	80.10		
09 21 064 4702	08.7	09 30 010 0305	31.41			09 31 006 2601	07.3
09 21 064 4711	08.8	09 30 010 0317	31.38	09 30 024 0301	31.59	09 31 006 2601	07.4
09 21 064 4712	08.8	09 30 010 0318	31.42	09 30 024 0302	31.63	09 31 006 2611	07.4
		09 30 010 0381	31.44	09 30 024 0304	31.65	09 31 006 2701	07.3
09 21 240 3001	16.4	09 30 010 0801	31.34	09 30 024 0307	31.65	09 31 006 2701	07.4
09 21 240 3101	16.4	09 30 010 0803	31.41	09 30 024 0318	31.65	09 31 006 2711	07.4
		09 30 010 0901	31.78	09 30 024 0381	31.68		
09 21 264 3001	16.5	09 30 010 0902	31.78	09 30 024 0408	80.11	09 32 000 6104	05.21
09 21 264 3101	16.5	09 30 010 0961	31.78	09 30 024 0801	31.58	09 32 000 6104	05.24
		09 30 010 1301	31.34	09 30 024 0803	31.64	09 32 000 6104	06.20
09 30 000 9801	80.8	09 30 010 1701	16.51	09 30 024 1301	31.59	09 32 000 6104	06.22
09 30 000 9802	80.8	09 30 010 1701	80.27	09 30 024 1701	16.51	09 32 000 6104	06.24
09 30 000 9803	80.8	09 30 010 5401	31.36	09 30 024 1701	80.27	09 32 000 6104	06.44
09 30 000 9804	80.8	09 30 010 5401	31.36	09 30 024 4411	31.58	09 32 000 6104	06.27
09 30 000 9901	80.25	09 30 010 5404	80.33	09 30 024 5401	31.58	09 32 000 6104	13.3
09 30 000 9903	80.8	09 30 010 5406	31.79	09 30 024 5401	31.58	09 32 000 6104	13.5
09 30 000 9933	80.9	09 30 010 5406	31.79	09 30 024 5404	80.33	09 32 000 6104	13.11
09 30 000 9934	80.9	09 30 010 5406	31.36	09 30 024 5405	31.60	09 32 000 6104	13.13
09 30 000 9935	80.9	09 30 010 5406	31.36	09 30 024 5405	31.60	09 32 000 6104	13.15
09 30 000 9936	80.9	09 30 010 5407	31.35	09 30 024 5406	31.61	09 32 000 6105	05.21
09 30 000 9941	80.9	09 30 010 5407	31.35	09 30 024 5406	31.61	09 32 000 6105	05.24
09 30 000 9942	80.9	09 30 010 5410	80.33	09 30 024 5410	80.33	09 32 000 6105	06.20
09 30 000 9943	80.9	09 30 010 5412	31.43	09 30 024 5422	31.59	09 32 000 6105	06.22
09 30 000 9944	80.9	09 30 010 5412	31.43	09 30 024 5422	31.59	09 32 000 6105	06.24
09 30 000 9958	80.35	09 30 010 5423	31.34	09 30 024 5425	31.60	09 32 000 6105	06.44
09 30 000 9963	80.9	09 30 010 5423	31.34	09 30 024 5425	31.60	09 32 000 6105	06.27
09 30 000 9964	80.33	09 30 010 5425	31.36	09 30 024 5426	31.61	09 32 000 6105	13.3
09 30 000 9965	80.4	09 30 010 5425	31.36	09 30 024 5426	31.61	09 32 000 6105	13.5
09 30 000 9966	80.4	09 30 010 5427	31.35	09 30 024 5432	31.65	09 32 000 6105	13.11
09 30 000 9967	80.5	09 30 010 5427	31.35	09 30 024 5432	31.65	09 32 000 6105	13.13
09 30 000 9968	80.6	09 30 010 5432	31.41	09 30 024 5436	31.66	09 32 000 6105	13.15
09 30 000 9969	80.6	09 30 010 5432	31.41	09 30 024 5436	31.66	09 32 000 6107	05.21
09 30 000 9970	80.4	09 30 010 5457	31.38	09 30 024 5442	31.59	09 32 000 6107	05.24
09 30 000 9971	80.4	09 30 010 5457	31.38	09 30 024 5442	31.59	09 32 000 6107	06.20
09 30 000 9972	80.5					09 32 000 6107	06.22
09 30 000 9973	80.6	09 30 016 0301	31.47	09 30 032 0301	31.69	09 32 000 6107	06.24
09 30 000 9974	80.6	09 30 016 0302	31.51	09 30 032 5420	31.69	09 32 000 6107	06.44
09 30 000 9986	80.35	09 30 016 0306	31.53	09 30 032 5420	31.69	09 32 000 6107	06.27
09 30 000 9987	80.35	09 30 016 0307	31.53	09 30 032 5425	31.70	09 32 000 6107	13.3
09 30 000 9995	80.9	09 30 016 0318	31.54	09 30 032 5425	31.70	09 32 000 6107	13.5
09 30 000 9996	80.8	09 30 016 0381	31.56	09 30 032 5426	31.70	09 32 000 6107	13.11
09 30 000 9997	80.31	09 30 016 0408	80.11	09 30 032 5426	31.70	09 32 000 6107	13.13
		09 30 016 0801	31.46	09 30 032 5427	31.70	09 32 000 6107	13.15
09 30 006 0301	31.28	09 30 016 0803	31.53	09 30 032 5427	31.70	09 32 000 6108	05.21
09 30 006 0302	31.28	09 30 016 1301	31.47			09 32 000 6108	05.24
09 30 006 0318	31.28	09 30 016 1701	16.51	09 30 048 0301	31.71	09 32 000 6108	06.20
09 30 006 0381	31.32	09 30 016 1701	80.27	09 30 048 0317	31.72	09 32 000 6108	06.22
09 30 006 0801	31.27	09 30 016 4411	31.46			09 32 000 6108	06.24
09 30 006 1301	31.29	09 30 016 4431	31.51	09 30 210 0305	16.44	09 32 000 6108	06.44
09 30 006 1701	16.51	09 30 016 4441	31.52	09 30 210 0803	16.44	09 32 000 6108	06.27
09 30 006 1701	80.27	09 30 016 5401	31.49			09 32 000 6108	13.3
09 30 006 5401	31.31	09 30 016 5401	31.49	09 30 216 0307	16.47	09 32 000 6108	13.5
09 30 006 5401	31.31	09 30 016 5404	80.33	09 30 216 0803	16.46	09 32 000 6108	13.11
09 30 006 5403	80.33	09 30 016 5405	31.48			09 32 000 6108	13.13
09 30 006 5404	31.31	09 30 016 5405	31.48	09 30 224 0307	16.49	09 32 000 6108	13.15
09 30 006 5404	31.31	09 30 016 5406	31.48	09 30 224 0803	16.48	09 32 000 6109	06.20
09 30 006 5410	80.33	09 30 016 5406	31.48			09 32 000 6109	06.22
09 30 006 5423	31.28	09 30 016 5410	80.33	09 30 410 0901	31.78	09 32 000 6109	06.44

part numbers	page	part numbers	page	part numbers	page	part numbers	page
09 32 000 6109	13.3	09 32 012 3101	05.23	09 33 000 6105	06.38	09 33 000 6116	05.12
09 32 000 6109	13.5			09 33 000 6105	13.21	09 33 000 6116	06.18
09 32 000 6109	13.11	09 32 018 3001	03.24	09 33 000 6105	13.29	09 33 000 6116	06.40
09 32 000 6109	13.13	09 32 018 3101	03.24	09 33 000 6106	01.11	09 33 000 6116	06.84
09 32 000 6180	20.23			09 33 000 6106	03.32	09 33 000 6116	06.30
09 32 000 6204	05.21	09 32 032 3001	03.25	09 33 000 6106	04.18	09 33 000 6116	06.34
09 32 000 6204	05.24	09 32 032 3001	03.27	09 33 000 6106	06.18	09 33 000 6116	06.38
09 32 000 6204	06.20	09 32 032 3011	03.27	09 33 000 6106	06.40	09 33 000 6116	13.21
09 32 000 6204	06.22	09 32 032 3101	03.25	09 33 000 6106	06.45	09 33 000 6116	13.28
09 32 000 6204	06.24	09 32 032 3101	03.27	09 33 000 6106	06.47	09 33 000 6116	19.18
09 32 000 6204	06.44	09 32 032 3111	03.27	09 33 000 6106	06.30	09 33 000 6117	01.11
09 32 000 6204	06.27			09 33 000 6106	06.35	09 33 000 6117	03.32
09 32 000 6204	13.3	09 32 040 3001	03.30	09 33 000 6106	06.38	09 33 000 6117	06.18
09 32 000 6204	13.5	09 32 040 3101	03.30	09 33 000 6107	01.11	09 33 000 6117	06.40
09 32 000 6204	13.11			09 33 000 6107	03.32	09 33 000 6117	06.84
09 32 000 6204	13.13	09 32 046 3001	03.26	09 33 000 6107	04.18	09 33 000 6117	06.30
09 32 000 6204	13.15	09 32 046 3001	03.28	09 33 000 6107	05.12	09 33 000 6117	06.34
09 32 000 6205	05.21	09 32 046 3011	03.28	09 33 000 6107	06.18	09 33 000 6117	06.38
09 32 000 6205	05.24	09 32 046 3101	03.26	09 33 000 6107	06.40	09 33 000 6117	13.21
09 32 000 6205	06.20	09 32 046 3101	03.28	09 33 000 6107	06.45	09 33 000 6117	13.28
09 32 000 6205	06.22	09 32 046 3111	03.28	09 33 000 6107	06.47	09 33 000 6117	19.18
09 32 000 6205	06.24			09 33 000 6107	06.30	09 33 000 6118	01.11
09 32 000 6205	06.44	09 32 064 3001	03.31	09 33 000 6107	06.35	09 33 000 6118	03.32
09 32 000 6205	06.27	09 32 064 3101	03.31	09 33 000 6107	06.38	09 33 000 6118	05.12
09 32 000 6205	13.3			09 33 000 6107	13.29	09 33 000 6118	06.18
09 32 000 6205	13.5	09 32 240 3001	16.18	09 33 000 6109	03.33	09 33 000 6118	06.40
09 32 000 6205	13.11	09 32 240 3101	16.18	09 33 000 6109	04.18	09 33 000 6118	06.84
09 32 000 6205	13.13			09 33 000 6109	05.12	09 33 000 6118	06.30
09 32 000 6205	13.15	09 32 264 3001	16.19	09 33 000 6109	13.21	09 33 000 6118	06.34
09 32 000 6207	05.21	09 32 264 3101	16.19	09 33 000 6109	13.29	09 33 000 6118	06.38
09 32 000 6207	05.24			09 33 000 6110	03.33	09 33 000 6118	13.21
09 32 000 6207	06.20	09 33 000 6102	01.11	09 33 000 6110	04.18	09 33 000 6118	13.28
09 32 000 6207	06.22	09 33 000 6102	03.32	09 33 000 6110	05.12	09 33 000 6118	19.18
09 32 000 6207	06.24	09 33 000 6102	04.18	09 33 000 6110	13.21	09 33 000 6119	01.11
09 32 000 6207	06.44	09 33 000 6102	05.12	09 33 000 6110	13.29	09 33 000 6119	03.32
09 32 000 6207	06.27	09 33 000 6102	06.18	09 33 000 6111	03.33	09 33 000 6119	05.12
09 32 000 6207	13.3	09 33 000 6102	06.40	09 33 000 6111	04.18	09 33 000 6119	06.18
09 32 000 6207	13.5	09 33 000 6102	06.45	09 33 000 6111	05.12	09 33 000 6119	06.40
09 32 000 6207	13.11	09 33 000 6102	06.47	09 33 000 6111	13.21	09 33 000 6119	06.84
09 32 000 6207	13.13	09 33 000 6102	06.30	09 33 000 6111	13.29	09 33 000 6119	06.30
09 32 000 6207	13.15	09 33 000 6102	06.35	09 33 000 6114	01.11	09 33 000 6119	06.34
09 32 000 6208	05.21	09 33 000 6102	06.38	09 33 000 6114	03.32	09 33 000 6119	06.38
09 32 000 6208	05.24	09 33 000 6102	13.21	09 33 000 6114	04.18	09 33 000 6119	13.28
09 32 000 6208	06.20	09 33 000 6102	13.29	09 33 000 6114	05.12	09 33 000 6119	19.18
09 32 000 6208	06.22	09 33 000 6104	01.11	09 33 000 6114	06.18	09 33 000 6121	01.11
09 32 000 6208	06.24	09 33 000 6104	03.32	09 33 000 6114	06.40	09 33 000 6121	03.32
09 32 000 6208	06.44	09 33 000 6104	04.18	09 33 000 6114	06.45	09 33 000 6121	04.18
09 32 000 6208	06.27	09 33 000 6104	05.12	09 33 000 6114	06.47	09 33 000 6121	05.12
09 32 000 6208	13.3	09 33 000 6104	06.18	09 33 000 6114	06.30	09 33 000 6121	06.18
09 32 000 6208	13.5	09 33 000 6104	06.40	09 33 000 6114	06.35	09 33 000 6121	06.40
09 32 000 6208	13.11	09 33 000 6104	06.45	09 33 000 6114	06.38	09 33 000 6121	06.45
09 32 000 6208	13.13	09 33 000 6104	06.47	09 33 000 6114	13.21	09 33 000 6121	06.47
09 32 000 6208	13.15	09 33 000 6104	06.30	09 33 000 6114	13.29	09 33 000 6121	06.30
09 32 000 6209	06.20	09 33 000 6104	06.35	09 33 000 6115	01.11	09 33 000 6121	06.35
09 32 000 6209	06.22	09 33 000 6104	06.38	09 33 000 6115	03.32	09 33 000 6121	06.38
09 32 000 6209	06.44	09 33 000 6104	13.21	09 33 000 6115	05.12	09 33 000 6121	13.21
09 32 000 6209	13.3	09 33 000 6104	13.29	09 33 000 6115	06.18	09 33 000 6121	13.29
09 32 000 6209	13.5	09 33 000 6105	01.11	09 33 000 6115	06.40	09 33 000 6122	01.11
09 32 000 6209	13.11	09 33 000 6105	03.32	09 33 000 6115	06.84	09 33 000 6122	03.32
09 32 000 6209	13.13	09 33 000 6105	04.18	09 33 000 6115	06.30	09 33 000 6122	05.12
09 32 000 6280	20.23	09 33 000 6105	05.12	09 33 000 6115	06.34	09 33 000 6122	06.18
09 32 000 6295	20.19	09 33 000 6105	06.18	09 33 000 6115	06.38	09 33 000 6122	06.40
		09 33 000 6105	06.40	09 33 000 6115	13.21	09 33 000 6122	06.84
		09 33 000 6105	06.45	09 33 000 6115	13.28	09 33 000 6122	06.30
09 32 010 3001	03.23	09 33 000 6105	06.47	09 33 000 6115	19.18	09 33 000 6122	06.34
09 32 010 3101	03.23	09 33 000 6105	06.30	09 33 000 6116	01.11	09 33 000 6122	06.38
		09 33 000 6105	06.35	09 33 000 6116	03.32	09 33 000 6122	13.21

List of part numbers



part numbers	page	part numbers	page	part numbers	page	part numbers	page
09 33 000 6122	13.28	09 33 000 6205	06.35	09 33 000 6217	06.84	09 33 000 6227	01.11
09 33 000 6122	19.18	09 33 000 6205	06.38	09 33 000 6217	06.30	09 33 000 6227	03.32
09 33 000 6123	01.11	09 33 000 6205	13.21	09 33 000 6217	06.34	09 33 000 6227	06.18
09 33 000 6123	03.32	09 33 000 6205	13.29	09 33 000 6217	06.38	09 33 000 6227	06.40
09 33 000 6123	05.12	09 33 000 6206	01.11	09 33 000 6217	13.21	09 33 000 6227	06.30
09 33 000 6123	06.18	09 33 000 6206	03.32	09 33 000 6217	13.28	09 33 000 6227	06.35
09 33 000 6123	06.40	09 33 000 6206	04.18	09 33 000 6217	19.18	09 33 000 6227	06.38
09 33 000 6123	06.84	09 33 000 6206	06.18	09 33 000 6218	01.11	09 33 000 6227	13.21
09 33 000 6123	06.30	09 33 000 6206	06.40	09 33 000 6218	03.32	09 33 000 6227	13.29
09 33 000 6123	06.34	09 33 000 6206	06.45	09 33 000 6218	05.12	09 33 000 6239	06.84
09 33 000 6123	06.38	09 33 000 6206	06.47	09 33 000 6218	06.18	09 33 000 6239	19.18
09 33 000 6123	13.21	09 33 000 6206	06.30	09 33 000 6218	06.40	09 33 000 6262	41.3
09 33 000 6123	13.28	09 33 000 6206	06.35	09 33 000 6218	06.84	09 33 000 6263	41.3
09 33 000 6123	19.18	09 33 000 6206	06.38	09 33 000 6218	06.30	09 33 000 6272	41.3
09 33 000 6127	01.11	09 33 000 6207	01.11	09 33 000 6218	06.34	09 33 000 6273	41.3
09 33 000 6127	03.32	09 33 000 6207	03.32	09 33 000 6218	06.38	09 33 000 6280	20.21
09 33 000 6127	06.18	09 33 000 6207	04.18	09 33 000 6218	13.21	09 33 000 6280	20.32
09 33 000 6127	06.40	09 33 000 6207	05.12	09 33 000 6218	13.28	09 33 000 6295	20.26
09 33 000 6127	06.30	09 33 000 6207	06.18	09 33 000 6218	19.18	09 33 000 9801	11.9
09 33 000 6127	06.35	09 33 000 6207	06.40	09 33 000 6220	01.11	09 33 000 9803	11.9
09 33 000 6127	06.38	09 33 000 6207	06.45	09 33 000 6220	03.32	09 33 000 9808	11.15
09 33 000 6127	13.21	09 33 000 6207	06.47	09 33 000 6220	04.18	09 33 000 9808	80.24
09 33 000 6127	13.29	09 33 000 6207	06.30	09 33 000 6220	05.12	09 33 000 9809	11.15
09 33 000 6139	06.84	09 33 000 6207	06.35	09 33 000 6220	06.18	09 33 000 9809	80.24
09 33 000 6139	19.18	09 33 000 6207	06.38	09 33 000 6220	06.40	09 33 000 9908	80.24
09 33 000 6162	41.3	09 33 000 6207	13.29	09 33 000 6220	06.45	09 33 000 9909	80.24
09 33 000 6163	41.3	09 33 000 6214	01.11	09 33 000 6220	06.47	09 33 000 9910	80.30
09 33 000 6172	41.3	09 33 000 6214	03.32	09 33 000 6220	06.30	09 33 000 9912	80.30
09 33 000 6173	41.3	09 33 000 6214	04.18	09 33 000 6220	06.35	09 33 000 9915	02.23
09 33 000 6180	20.21	09 33 000 6214	05.12	09 33 000 6220	06.38	09 33 000 9915	02.15
09 33 000 6180	20.32	09 33 000 6214	06.18	09 33 000 6220	13.21	09 33 000 9915	16.11
09 33 000 6195	20.26	09 33 000 6214	06.40	09 33 000 6220	13.29	09 33 000 9915	80.26
09 33 000 6202	01.11	09 33 000 6214	06.45	09 33 000 6221	01.11	09 33 000 9925	80.32
09 33 000 6202	03.32	09 33 000 6214	06.47	09 33 000 6221	03.32	09 33 000 9926	80.32
09 33 000 6202	04.18	09 33 000 6214	06.30	09 33 000 6221	05.12	09 33 000 9928	08.25
09 33 000 6202	05.12	09 33 000 6214	06.35	09 33 000 6221	06.18	09 33 000 9929	08.25
09 33 000 6202	06.18	09 33 000 6214	06.38	09 33 000 6221	06.40	09 33 000 9954	03.33
09 33 000 6202	06.40	09 33 000 6214	13.21	09 33 000 6221	06.84	09 33 000 9954	13.22
09 33 000 6202	06.45	09 33 000 6214	13.29	09 33 000 6221	06.30	09 33 000 9954	13.29
09 33 000 6202	06.47	09 33 000 6215	01.11	09 33 000 6221	06.34	09 33 000 9954	16.20
09 33 000 6202	06.30	09 33 000 6215	03.32	09 33 000 6221	06.38	09 33 000 9954	80.26
09 33 000 6202	06.35	09 33 000 6215	05.12	09 33 000 6221	13.28	09 33 000 9956	11.15
09 33 000 6202	06.38	09 33 000 6215	06.18	09 33 000 6221	19.18	09 33 000 9957	11.15
09 33 000 6202	13.21	09 33 000 6215	06.40	09 33 000 6222	01.11	09 33 000 9964	08.26
09 33 000 6202	13.29	09 33 000 6215	06.84	09 33 000 6222	03.32	09 33 000 9965	08.26
09 33 000 6204	01.11	09 33 000 6215	06.30	09 33 000 6222	05.12	09 33 000 9966	08.26
09 33 000 6204	03.32	09 33 000 6215	06.34	09 33 000 6222	06.18	09 33 000 9967	08.26
09 33 000 6204	04.18	09 33 000 6215	06.38	09 33 000 6222	06.40	09 33 000 9971	08.26
09 33 000 6204	05.12	09 33 000 6215	13.21	09 33 000 6222	06.84	09 33 000 9971	80.34
09 33 000 6204	06.18	09 33 000 6215	13.28	09 33 000 6222	06.30	09 33 000 9973	08.26
09 33 000 6204	06.40	09 33 000 6215	19.18	09 33 000 6222	06.34	09 33 000 9973	80.35
09 33 000 6204	06.45	09 33 000 6216	01.11	09 33 000 6222	06.38	09 33 000 9980	11.7
09 33 000 6204	06.47	09 33 000 6216	03.32	09 33 000 6222	13.21	09 33 000 9981	11.16
09 33 000 6204	06.30	09 33 000 6216	05.12	09 33 000 6222	13.28	09 33 000 9981	80.12
09 33 000 6204	06.35	09 33 000 6216	06.18	09 33 000 6222	19.18	09 33 000 9982	11.16
09 33 000 6204	06.38	09 33 000 6216	06.40	09 33 000 6223	01.11	09 33 000 9984	11.6
09 33 000 6204	13.21	09 33 000 6216	06.84	09 33 000 6223	03.32	09 33 000 9985	11.5
09 33 000 6204	13.29	09 33 000 6216	06.30	09 33 000 6223	05.12	09 33 000 9987	11.4
09 33 000 6205	01.11	09 33 000 6216	06.34	09 33 000 6223	06.18	09 33 000 9988	11.8
09 33 000 6205	03.32	09 33 000 6216	06.38	09 33 000 6223	06.40	09 33 000 9989	11.9
09 33 000 6205	04.18	09 33 000 6216	13.21	09 33 000 6223	06.84	09 33 000 9990	11.4
09 33 000 6205	05.12	09 33 000 6216	13.28	09 33 000 6223	06.30	09 33 000 9991	11.3
09 33 000 6205	06.18	09 33 000 6216	19.18	09 33 000 6223	06.34	09 33 000 9992	80.28
09 33 000 6205	06.40	09 33 000 6217	01.11	09 33 000 6223	06.38	09 33 000 9996	20.21
09 33 000 6205	06.45	09 33 000 6217	03.32	09 33 000 6223	13.21	09 33 000 9996	20.21
09 33 000 6205	06.47	09 33 000 6217	06.18	09 33 000 6223	13.28		
09 33 000 6205	06.30	09 33 000 6217	06.40	09 33 000 6223	19.18	09 33 006 0401	11.11

part numbers	page	part numbers	page	part numbers	page	part numbers	page
09 33 006 2601	03.4	09 33 016 2716	03.18	09 33 200 6116	16.33	09 33 210 2602	16.14
09 33 006 2602	03.4	09 33 016 2726	03.18	09 33 200 6116	16.35	09 33 210 2702	16.14
09 33 006 2616	03.14	09 33 016 2772	03.16	09 33 200 6116	16.37		
09 33 006 2672	03.14	09 33 016 2772	03.19	09 33 200 6117	16.20	09 33 216 2602	16.15
09 33 006 2701	03.4	09 33 016 2791	41.8	09 33 200 6117	16.31	09 33 216 2702	16.15
09 33 006 2702	03.4	09 33 016 4625	08.16	09 33 200 6117	16.33		
09 33 006 2716	03.14	09 33 016 4626	08.16	09 33 200 6117	16.35	09 33 224 2602	16.16
09 33 006 2772	03.14	09 33 016 4629	08.23	09 33 200 6117	16.37	09 33 224 2702	16.16
09 33 006 4625	08.12	09 33 016 4635	08.17	09 33 200 6118	16.20		
09 33 006 4626	08.12	09 33 016 4636	08.17	09 33 200 6118	16.31	09 33 800 6102	17.8
09 33 006 4629	08.21	09 33 016 4639	08.23	09 33 200 6118	16.33	09 33 800 6104	17.8
09 33 006 4635	08.13	09 33 016 4725	08.16	09 33 200 6118	16.35	09 33 800 6105	17.8
09 33 006 4636	08.13	09 33 016 4726	08.16	09 33 200 6118	16.37	09 33 800 6114	17.8
09 33 006 4639	08.21	09 33 016 4729	08.23	09 33 200 6119	16.20	09 33 800 6121	17.8
09 33 006 4725	08.12	09 33 016 4735	08.17	09 33 200 6119	16.31	09 33 800 6202	17.8
09 33 006 4726	08.12	09 33 016 4736	08.17	09 33 200 6119	16.33	09 33 800 6204	17.8
09 33 006 4729	08.21	09 33 016 4739	08.23	09 33 200 6119	16.35	09 33 800 6205	17.8
09 33 006 4735	08.13	09 33 016 5401	11.13	09 33 200 6119	16.37	09 33 800 6214	17.8
09 33 006 4736	08.13			09 33 200 6122	16.20	09 33 800 6220	17.8
09 33 006 4739	08.21	09 33 024 0401	11.14	09 33 200 6122	16.31		
09 33 006 5401	11.11	09 33 024 2601	03.7	09 33 200 6122	16.33	09 33 806 2601	17.4
		09 33 024 2601	03.11	09 33 200 6122	16.35	09 33 806 2602	17.4
		09 33 024 2602	03.7	09 33 200 6122	16.37	09 33 806 2701	17.4
09 33 010 0401	11.12	09 33 024 2602	03.10	09 33 200 6123	16.20	09 33 806 2702	17.4
09 33 010 2601	03.5	09 33 024 2611	03.11	09 33 200 6123	16.31		
09 33 010 2602	03.5	09 33 024 2612	03.10	09 33 200 6123	16.33	09 33 810 2601	17.5
09 33 010 2616	03.15	09 33 024 2616	03.17	09 33 200 6123	16.35	09 33 810 2602	17.5
09 33 010 2672	03.15	09 33 024 2616	03.20	09 33 200 6123	16.37	09 33 810 2701	17.5
09 33 010 2691	41.7	09 33 024 2626	03.20	09 33 200 6215	16.20	09 33 810 2702	17.5
09 33 010 2701	03.5	09 33 024 2672	03.17	09 33 200 6215	16.31		
09 33 010 2702	03.5	09 33 024 2672	03.21	09 33 200 6215	16.33	09 33 816 2601	17.6
09 33 010 2716	03.15	09 33 024 2689	41.9	09 33 200 6215	16.35	09 33 816 2602	17.6
09 33 010 2772	03.15	09 33 024 2691	41.9	09 33 200 6215	16.37	09 33 816 2701	17.6
09 33 010 2791	41.7	09 33 024 2701	03.7	09 33 200 6216	16.20	09 33 816 2702	17.6
09 33 010 4625	08.14	09 33 024 2701	03.11	09 33 200 6216	16.31		
09 33 010 4626	08.14	09 33 024 2702	03.7	09 33 200 6216	16.33	09 33 824 2601	17.7
09 33 010 4629	08.22	09 33 024 2702	03.10	09 33 200 6216	16.35	09 33 824 2602	17.7
09 33 010 4635	08.15	09 33 024 2711	03.11	09 33 200 6216	16.37	09 33 824 2701	17.7
09 33 010 4636	08.15	09 33 024 2712	03.10	09 33 200 6217	16.20	09 33 824 2702	17.7
09 33 010 4639	08.22	09 33 024 2716	03.17	09 33 200 6217	16.31		
09 33 010 4725	08.14	09 33 024 2716	03.20	09 33 200 6217	16.33	09 34 003 0301	04.20
09 33 010 4726	08.14	09 33 024 2726	03.20	09 33 200 6217	16.35	09 34 003 2601	04.4
09 33 010 4729	08.22	09 33 024 2772	03.17	09 33 200 6217	16.37	09 34 003 2602	04.4
09 33 010 4735	08.15	09 33 024 2772	03.21	09 33 200 6218	16.20	09 34 003 2616	04.13
09 33 010 4736	08.15	09 33 024 2789	41.9	09 33 200 6218	16.31	09 34 003 2701	04.4
09 33 010 4739	08.22	09 33 024 2791	41.9	09 33 200 6218	16.33	09 34 003 2702	04.4
09 33 010 5401	11.12	09 33 024 4625	08.18	09 33 200 6218	16.35	09 34 003 2716	04.13
		09 33 024 4626	08.18	09 33 200 6218	16.37		
09 33 016 0401	11.13	09 33 024 4629	08.24	09 33 200 6221	16.20	09 34 006 0301	04.21
09 33 016 2601	03.6	09 33 024 4635	08.19	09 33 200 6221	16.31	09 34 006 2601	04.5
09 33 016 2601	03.9	09 33 024 4636	08.19	09 33 200 6221	16.33	09 34 006 2601	04.7
09 33 016 2602	03.6	09 33 024 4639	08.24	09 33 200 6221	16.35	09 34 006 2602	04.5
09 33 016 2602	03.8	09 33 024 4725	08.18	09 33 200 6221	16.37	09 34 006 2602	04.7
09 33 016 2611	03.9	09 33 024 4726	08.18	09 33 200 6222	16.20	09 34 006 2616	04.14
09 33 016 2612	03.8	09 33 024 4726	08.18	09 33 200 6222	16.31	09 34 006 2616	04.16
09 33 016 2616	03.16	09 33 024 4729	08.24	09 33 200 6222	16.33	09 34 006 2616	04.16
09 33 016 2616	03.18	09 33 024 4735	08.19	09 33 200 6222	16.35	09 34 006 2701	04.5
09 33 016 2626	03.18	09 33 024 4736	08.19	09 33 200 6222	16.37	09 34 006 2701	04.7
09 33 016 2626	03.16	09 33 024 4739	08.24	09 33 200 6222	16.37	09 34 006 2702	04.5
09 33 016 2672	03.19	09 33 024 5401	11.14	09 33 200 6223	16.20	09 34 006 2702	04.7
09 33 016 2672	03.19			09 33 200 6223	16.31	09 34 006 2716	04.14
09 33 016 2691	41.8			09 33 200 6223	16.33	09 34 006 2716	04.16
09 33 016 2701	03.6	09 33 200 6115	16.20	09 33 200 6223	16.35		
09 33 016 2701	03.9	09 33 200 6115	16.31	09 33 200 6223	16.35	09 34 010 0301	04.22
09 33 016 2702	03.6	09 33 200 6115	16.33	09 33 200 6223	16.37	09 34 010 2601	04.6
09 33 016 2702	03.8	09 33 200 6115	16.35			09 34 010 2601	04.8
09 33 016 2711	03.9	09 33 200 6115	16.37	09 33 206 2602	16.13	09 34 010 2602	04.6
09 33 016 2712	03.8	09 33 200 6116	16.20	09 33 206 2702	16.13	09 34 010 2602	04.6
09 33 016 2716	03.16	09 33 200 6116	16.31			09 34 010 2602	04.8

List of part numbers



part numbers	page	part numbers	page	part numbers	page	part numbers	page
09 34 010 2616	04.15	09 38 005 2621	14.8	09 40 000 9956	14.20	09 40 024 0311	14.28
09 34 010 2616	04.17	09 38 005 2622	14.8	09 40 000 9965	14.64	09 40 024 0311	14.31
09 34 010 2701	04.6	09 38 005 2701	14.10	09 40 000 9980	80.8	09 40 024 0311	31.142
09 34 010 2701	04.8	09 38 005 2702	14.10			09 40 024 0317	31.143
09 34 010 2702	04.6	09 38 005 2721	14.8	09 40 003 0301	19.48	09 40 024 0368	14.53
09 34 010 2702	04.8	09 38 005 2722	14.8	09 40 003 0301	31.123	09 40 024 0368	14.34
09 34 010 2716	04.15			09 40 003 0311	19.49	09 40 024 0368	14.38
09 34 010 2716	04.17	09 38 006 2601	05.16	09 40 003 0311	31.124	09 40 024 0368	14.58
		09 38 006 2611	05.14	09 40 003 0902	31.126	09 40 024 0451	14.55
09 34 016 2601	04.10	09 38 006 2701	05.16	09 40 003 0950	19.49	09 40 024 0811	31.141
09 34 016 2601	04.11	09 38 006 2711	05.14	09 40 003 0950	31.124	09 40 024 0951	14.55
09 34 016 2701	04.10			09 40 003 0951	19.49	09 40 024 5401	31.144
09 34 016 2701	04.11	09 38 008 2601	05.9	09 40 003 0951	31.124	09 40 024 5404	31.142
		09 38 008 2602	05.9	09 40 003 0953	19.49	09 40 024 5406	31.144
09 36 008 2632	02.5	09 38 008 2611	05.9	09 40 003 0953	31.124	09 40 024 5411	31.144
09 36 008 2732	02.5	09 38 008 2612	05.9	09 40 003 5401	19.50	09 40 024 5414	31.142
09 36 008 3001	02.5	09 38 008 2653	05.30	09 40 003 5401	31.125	09 40 024 9911	14.56
09 36 008 3101	02.5	09 38 008 2701	05.9	09 40 003 5402	19.50	09 40 024 9912	14.56
		09 38 008 2702	05.9	09 40 003 5402	31.125	09 40 024 9913	14.56
09 37 000 9912	80.8	09 38 008 2753	05.30	09 40 003 5406	19.47	09 40 024 9914	14.56
09 37 000 9946	80.8			09 40 003 5406	19.51	09 40 024 9921	14.57
09 37 000 9947	80.8	09 38 012 2601	05.26	09 40 003 5406	31.121	09 40 024 9922	14.57
09 37 000 9948	80.8	09 38 012 2651	05.28	09 40 003 5406	31.126		
09 37 000 9949	80.8	09 38 012 2701	05.26	09 40 003 5411	19.50	09 40 048 0311	14.62
		09 38 012 2751	05.28	09 40 003 5411	31.125	09 40 048 0331	14.62
09 37 003 0301	19.36			09 40 003 5412	19.50	09 40 048 0451	14.62
09 37 003 0301	31.82	09 38 018 2601	05.18	09 40 003 5412	31.125	09 40 048 0951	14.63
09 37 003 0305	31.82	09 38 018 2602	05.18			09 40 048 5401	14.63
09 37 003 0801	31.82	09 38 018 2701	05.18	09 40 006 0301	31.129	09 40 048 9801	14.64
09 37 003 5401	31.81	09 38 018 2702	05.18	09 40 006 0311	14.25	09 40 048 9803	14.64
09 37 003 5402	31.81			09 40 006 0311	31.129	09 40 048 9806	14.65
09 37 003 5405	31.83	09 38 032 3001	05.11	09 40 006 0314	14.47	09 40 048 9809	14.65
09 37 003 5406	31.83	09 38 032 3101	05.11	09 40 006 0317	31.130	09 40 048 9810	14.65
				09 40 006 0811	31.129	09 40 048 9811	14.65
09 37 006 0301	31.86	09 38 042 3001	05.20	09 40 006 5401	31.130	09 40 048 9860	14.65
09 37 006 0318	31.86	09 38 042 3101	05.20	09 40 006 5404	31.129	09 40 048 9906	14.65
09 37 006 5405	31.87			09 40 006 5406	31.130	09 40 048 9909	14.65
09 37 006 5405	31.87	09 40 000 9901	14.25	09 40 006 5411	31.130	09 40 048 9910	14.65
09 37 006 5407	31.87	09 40 000 9901	31.131	09 40 006 5414	31.129	09 40 048 9911	14.65
		09 40 000 9902	31.135			09 40 048 9912	14.65
09 37 010 0301	31.89	09 40 000 9903	14.26	09 40 010 0301	31.133	09 40 048 9912	14.65
09 37 010 5403	31.88	09 40 000 9903	31.139	09 40 010 0311	31.133	09 40 048 9960	14.65
09 37 010 5403	31.88	09 40 000 9904	14.28	09 40 010 0317	31.133		
09 37 010 5405	31.89	09 40 000 9904	14.31	09 40 010 0811	31.133	09 40 703 0301	19.45
09 37 010 5405	31.89	09 40 000 9904	14.34	09 40 010 5401	31.134	09 40 703 0301	31.119
		09 40 000 9904	14.38	09 40 010 5404	31.133	09 40 703 0311	19.45
09 37 016 0301	31.91	09 40 000 9904	31.145	09 40 010 5406	31.134	09 40 703 0311	31.119
09 37 016 5402	31.90	09 40 000 9910	80.9	09 40 010 5411	31.134	09 40 703 0902	31.122
09 37 016 5402	31.90	09 40 000 9911	80.9	09 40 010 5414	31.133	09 40 703 0950	19.46
09 37 016 5405	31.91	09 40 000 9912	80.9			09 40 703 0950	31.120
09 37 016 5405	31.91	09 40 000 9913	80.9	09 40 016 0301	31.137	09 40 703 0951	19.46
		09 40 000 9914	80.9	09 40 016 0311	14.26	09 40 703 0951	31.120
09 37 024 0301	31.94	09 40 000 9921	80.34	09 40 016 0311	31.138	09 40 703 0953	19.46
09 37 024 0381	31.95	09 40 000 9922	80.34	09 40 016 0317	31.137	09 40 703 0953	31.120
09 37 024 5402	31.93	09 40 000 9923	80.34	09 40 016 0368	14.20	09 40 703 5401	19.47
09 37 024 5402	31.93	09 40 000 9924	80.34	09 40 016 0811	31.137	09 40 703 5401	31.121
09 37 024 5405	31.94	09 40 000 9925	14.57	09 40 016 1201	31.138	09 40 703 5402	19.47
09 37 024 5405	31.94	09 40 000 9926	14.57	09 40 016 5401	31.139	09 40 703 5402	31.121
		09 40 000 9929	80.32	09 40 016 5404	31.137	09 40 703 5411	19.47
		09 40 000 9931	80.31	09 40 016 5406	31.139	09 40 703 5411	31.121
09 37 048 0301	14.42	09 40 000 9932	80.32	09 40 016 5411	31.139	09 40 703 5412	19.47
09 37 048 0301	31.96	09 40 000 9933	80.31	09 40 016 5414	31.137	09 40 703 5412	31.121
		09 40 000 9937	80.32				
09 38 000 9901	80.34	09 40 000 9955	14.18	09 40 024 0301	31.142	09 42 020 0111	08.10
		09 40 000 9955	14.49	09 40 024 0311	14.18	09 42 020 0121	08.10
09 38 005 2601	14.10	09 40 000 9955	14.53	09 40 024 0311	14.49	09 42 020 0131	08.10
09 38 005 2602	14.10	09 40 000 9955	14.58	09 40 024 0311	14.13		

List of part numbers



part numbers	page	part numbers	page	part numbers	page	part numbers	page
09 45 400 1100	06.65	09 62 064 0301	31.107	09 67 000 8576	06.57	09 99 000 0022	90.6
09 45 400 1109	06.65			09 67 000 8576	13.36	09 99 000 0052	90.35
09 45 400 1520	06.65	09 62 806 0301	31.110	09 67 000 8576	13.38	09 99 000 0110	90.5
09 45 400 1560	06.65	09 62 806 0391	17.10	09 67 000 8576	19.16	09 99 000 0159	90.37
		09 62 806 0801	31.109			09 99 000 0169	90.11
09 47 474 7001	06.66			09 69 181 5140	06.87	09 99 000 0175	90.11
09 47 474 7002	06.66	09 62 810 0301	31.112	09 69 181 5141	06.87	09 99 000 0194	90.17
09 47 474 7003	06.66	09 62 810 0305	31.113	09 69 181 5143	06.87	09 99 000 0303	90.7
09 47 474 7004	06.66	09 62 810 0391	17.11	09 69 181 5230	06.87	09 99 000 0304	90.7
09 47 474 7005	06.66	09 62 810 0801	31.111			09 99 000 0305	90.35
09 47 474 7006	06.66	09 62 810 0901	31.79	09 69 182 5140	06.87	09 99 000 0306	90.7
09 47 474 7007	06.66	09 62 810 0974	31.79	09 69 182 5230	06.87	09 99 000 0319	90.35
09 47 474 7008	06.66					09 99 000 0323	90.36
09 47 474 7009	06.66	09 62 816 0301	31.115	09 69 281 5140	06.87	09 99 000 0327	90.36
09 47 474 7010	06.66	09 62 816 0391	17.12	09 69 281 5141	06.87	09 99 000 0328	90.35
09 47 474 7011	06.66	09 62 816 0801	31.114	09 69 281 5143	06.87	09 99 000 0331	90.34
09 47 474 7012	06.66			09 69 281 5230	06.87	09 99 000 0332	90.36
09 47 474 7013	06.66	09 62 824 0301	31.116			09 99 000 0334	90.35
09 47 474 7014	06.66	09 62 824 0391	17.13	09 69 282 5140	06.87	09 99 000 0341	90.5
09 47 474 7015	06.66	09 62 824 0801	31.116	09 69 282 5230	06.87	09 99 000 0343	90.6
09 47 474 7016	06.66					09 99 000 0344	90.9
09 47 474 7017	06.66	09 67 000 5476	06.54	09 70 000 9902	80.32	09 99 000 0363	90.31
09 47 474 7018	06.66	09 67 000 5476	06.69	09 70 000 9905	80.32	09 99 000 0364	90.32
09 47 474 7019	06.66	09 67 000 5476	06.71	09 70 000 9991	80.9	09 99 000 0367	90.31
09 47 474 7020	06.66	09 67 000 5476	06.80			09 99 000 0368	90.35
09 47 474 7021	06.66	09 67 000 5476	06.57	09 70 006 2615	09.3	09 99 000 0369	90.31
09 47 474 7022	06.66	09 67 000 5476	13.36	09 70 006 2616	09.3	09 99 000 0370	90.31
09 47 474 7023	06.66	09 67 000 5476	13.38	09 70 006 2812	09.3	09 99 000 0371	90.32
09 47 474 7101	06.67	09 67 000 5476	19.16	09 70 006 2813	09.3	09 99 000 0372	90.32
09 47 474 7102	06.67	09 67 000 5576	06.54			09 99 000 0374	90.17
09 47 474 7103	06.67	09 67 000 5576	06.69	09 70 014 2613	09.4	09 99 000 0375	90.31
09 47 474 7104	06.67	09 67 000 5576	06.71	09 70 014 2614	09.4	09 99 000 0376	90.5
09 47 474 7105	06.67	09 67 000 5576	06.80	09 70 014 2810	09.4	09 99 000 0377	90.8
09 47 474 7106	06.67	09 67 000 5576	06.57	09 70 014 2811	09.4	09 99 000 0381	90.35
09 47 474 7107	06.67	09 67 000 5576	13.36			09 99 000 0383	90.36
09 47 474 7108	06.67	09 67 000 5576	13.38	09 70 020 2621	09.5	09 99 000 0501	90.11
09 47 474 7109	06.67	09 67 000 5576	19.16	09 70 020 2621	09.6	09 99 000 0503	90.17
09 47 474 7110	06.67	09 67 000 7176	13.36	09 70 020 2622	09.5	09 99 000 0508	90.17
09 47 474 7111	06.67	09 67 000 7276	13.36	09 70 020 2622	09.6	09 99 000 0531	90.11
09 47 474 7112	06.67	09 67 000 7476	06.54	09 70 020 2816	09.5	09 99 000 0808	90.37
09 47 474 7113	06.67	09 67 000 7476	06.69	09 70 020 2816	09.6	09 99 000 0810	90.9
09 47 474 7114	06.67	09 67 000 7476	06.71	09 70 020 2817	09.5	09 99 000 0811	90.9
09 47 474 7115	06.67	09 67 000 7476	06.80	09 70 020 2817	09.6	09 99 000 0812	90.9
09 47 474 7116	06.67	09 67 000 7476	06.57			09 99 000 0813	90.9
09 47 474 7117	06.67	09 67 000 7476	13.36	09 98 000 3008	90.27	09 99 000 0814	90.10
09 47 474 7118	06.67	09 67 000 7476	19.16	09 98 000 3009	90.27	09 99 000 0820	90.36
09 47 474 7119	06.67	09 67 000 7576	06.54	09 98 000 5000	90.27	09 99 000 0826	14.68
09 47 474 7120	06.67	09 67 000 7576	06.69	09 98 000 6900	90.23	09 99 000 0826	90.36
09 47 474 7121	06.67	09 67 000 7576	06.71	09 98 000 6901	90.23	09 99 000 0827	90.34
09 47 474 7122	06.67	09 67 000 7576	06.80	09 98 000 6902	90.23	09 99 000 0828	90.34
09 47 474 7123	06.67	09 67 000 7576	06.57	09 98 000 8000	90.25	09 99 000 0829	80.34
		09 67 000 7576	13.36	09 98 000 8101	90.25	09 99 000 0830	90.17
09 62 003 0301	19.39	09 67 000 7576	19.16	09 98 000 8102	90.25	09 99 000 0831	90.17
09 62 003 0301	31.98	09 67 000 8176	13.36	09 98 000 8103	90.25	09 99 000 0833	90.30
09 62 003 0304	20.27	09 67 000 8276	13.36	09 98 000 8104	90.25	09 99 000 0834	90.30
09 62 003 0801	31.99	09 67 000 8476	06.54	09 98 000 8107	90.25	09 99 000 0835	90.30
09 62 003 0810	31.99	09 67 000 8476	06.69	09 98 000 9001	90.21	09 99 000 0836	90.32
		09 67 000 8476	06.71	09 98 000 9002	90.21	09 99 000 0837	90.36
09 62 006 0301	31.104	09 67 000 8476	06.80	09 98 000 9003	90.21	09 99 000 0840	90.32
		09 67 000 8476	06.57			09 99 000 0841	90.32
09 62 010 0301	31.105	09 67 000 8476	13.36	09 98 300 8103	90.25	09 99 000 0842	90.35
		09 67 000 8476	13.38			09 99 000 0843	90.35
09 62 015 0301	31.102	09 67 000 8476	19.16			09 99 000 0844	90.32
		09 67 000 8576	06.54	09 98 336 6851	90.21	09 99 000 0845	90.7
09 62 025 0301	31.103	09 67 000 8576	06.69			09 99 000 0847	90.31
		09 67 000 8576	06.71	09 99 000 0004	90.35	09 99 000 0848	90.31
09 62 040 0301	31.106	09 67 000 8576	06.80	09 99 000 0012	90.35	09 99 000 0850	90.12
				09 99 000 0021	90.6		

List of part numbers



part numbers	page	part numbers	page	part numbers	page	part numbers	page
09 99 000 0851	90.12	11 05 000 6103	25.24	11 05 000 6226	25.24	11 12 600 1205	25.36
09 99 000 0852	90.12	11 05 000 6104	25.14	11 05 000 6227	25.23	11 12 600 1206	25.36
09 99 000 0853	90.12	11 05 000 6104	25.23	11 05 000 6227	25.24	11 12 600 1207	25.36
09 99 000 0854	90.12	11 05 000 6104	25.24	11 05 000 6228	25.23	11 12 600 1211	25.37
09 99 000 0855	90.13	11 05 000 6105	25.14	11 05 000 6228	25.24	11 12 600 1212	25.37
09 99 000 0856	90.13	11 05 000 6105	25.23			11 12 600 1213	25.37
09 99 000 0857	90.13	11 05 000 6105	25.24	11 05 001 2601	25.46	11 12 600 1215	25.37
09 99 000 0860	90.14	11 05 000 6106	25.14	11 05 001 2601	25.46	11 12 600 1216	25.37
09 99 000 0861	90.14	11 05 000 6106	25.23			11 12 600 1217	25.37
09 99 000 0862	90.14	11 05 000 6106	25.24	11 05 105 2633	25.12	11 12 600 1401	25.38
09 99 000 0863	90.14	11 05 000 6107	25.14	11 05 105 2634	25.12	11 12 600 1402	25.38
09 99 000 0864	90.14	11 05 000 6107	25.23	11 05 105 2801	25.16	11 12 600 1403	25.38
09 99 000 0865	90.15	11 05 000 6107	25.24	11 05 105 2802	25.16	11 12 600 1411	25.38
09 99 000 0866	90.15	11 05 000 6108	25.14	11 05 105 2803	25.17	11 12 600 1415	25.38
09 99 000 0867	90.15	11 05 000 6108	25.23	11 05 105 2804	25.17	11 12 600 1501	25.38
09 99 000 0868	90.15	11 05 000 6108	25.24	11 05 105 2805	25.17	11 12 600 1502	25.38
09 99 000 0869	90.15	11 05 000 6121	25.14	11 05 105 2815	25.17	11 12 600 1503	25.38
09 99 000 0870	90.15	11 05 000 6121	25.23	11 05 105 2823	25.18	11 12 600 1711	25.37
09 99 000 0871	90.15	11 05 000 6121	25.24	11 05 105 3001	25.14	11 12 600 5201	25.45
09 99 000 0872	90.15	11 05 000 6122	25.14	11 05 105 3011	25.14	11 12 600 5401	25.36
09 99 000 0887	90.4	11 05 000 6122	25.23	11 05 105 3012	25.14	11 12 600 5451	25.39
09 99 000 0888	90.4	11 05 000 6122	25.24				
09 99 000 0889	90.4	11 05 000 6123	25.14	11 05 325 3001	25.23	11 13 300 0100	25.34
09 99 000 0900	90.28	11 05 000 6123	25.23	11 05 325 3101	25.23	11 13 300 0110	25.34
09 99 000 0901	90.28	11 05 000 6123	25.24			11 13 300 0301	25.33
09 99 000 0902	90.28	11 05 000 6124	25.14	11 05 648 3001	25.24	11 13 300 0302	25.33
09 99 000 0903	90.29	11 05 000 6124	25.23	11 05 648 3101	25.24	11 13 300 1401	25.34
09 99 000 0904	90.29	11 05 000 6124	25.24			11 13 300 1501	25.34
09 99 000 0905	90.29	11 05 000 6125	25.14	11 12 300 0100	25.31	11 13 300 1601	25.34
09 99 000 0906	90.29	11 05 000 6125	25.23	11 12 300 0110	25.32		
09 99 000 0907	90.29	11 05 000 6125	25.24	11 12 300 0301	25.29	11 13 600 0100	25.41
09 99 000 0909	90.29	11 05 000 6126	25.14	11 12 300 0302	25.29	11 13 600 0110	25.41
09 99 000 0910	90.29	11 05 000 6126	25.23	11 12 300 1200	25.29	11 13 600 0301	25.40
09 99 000 0912	90.29	11 05 000 6126	25.24	11 12 300 1201	25.29	11 13 600 0302	25.40
		11 05 000 6127	25.14	11 12 300 1202	25.29	11 13 600 1402	25.41
11 00 000 9501	25.45	11 05 000 6127	25.23	11 12 300 1204	25.29	11 13 600 1403	25.41
11 00 000 9509	25.46	11 05 000 6127	25.24	11 12 300 1205	25.29	11 13 600 1502	25.41
11 00 000 9510	25.46	11 05 000 6128	25.14	11 12 300 1206	25.29		
11 00 000 9601	25.45	11 05 000 6128	25.23	11 12 300 1210	25.30	11 20 003 0300	25.27
		11 05 000 6128	25.24	11 12 300 1211	25.30	11 20 003 0800	25.27
11 00 200 0101	25.20	11 05 000 6201	25.23	11 12 300 1212	25.30	11 20 003 1400	25.26
11 00 200 0301	25.20	11 05 000 6201	25.24	11 12 300 1214	25.30	11 20 003 1401	25.26
		11 05 000 6202	25.23	11 12 300 1215	25.30	11 20 003 1600	25.26
11 00 300 0101	25.20	11 05 000 6202	25.24	11 12 300 1216	25.30	11 20 003 1601	25.26
11 00 300 0301	25.20	11 05 000 6203	25.23	11 12 300 1400	25.31	11 20 003 5406	25.27
11 00 300 9501	25.44	11 05 000 6203	25.24	11 12 300 1401	25.31	11 20 003 5407	25.27
11 00 300 9502	25.44	11 05 000 6204	25.23	11 12 300 1402	25.31	11 20 003 5456	25.26
11 00 300 9503	25.44	11 05 000 6204	25.24	11 12 300 1500	25.31	11 20 003 9903	25.45
11 00 300 9601	25.42	11 05 000 6205	25.23	11 12 300 1501	25.31	11 20 003 9904	25.43
11 00 300 9603	25.42	11 05 000 6205	25.24	11 12 300 1502	25.31	11 20 003 9905	25.43
		11 05 000 6206	25.23	11 12 300 1510	25.31		
11 00 600 0101	25.21	11 05 000 6206	25.24	11 12 300 1600	25.31	11 30 000 9955	31.76
11 00 600 0301	25.20	11 05 000 6207	25.23	11 12 300 1601	25.31	11 30 000 9956	31.76
11 00 600 9501	25.44	11 05 000 6207	25.24	11 12 300 1602	25.31	11 30 000 9957	31.76
11 00 600 9502	25.44	11 05 000 6208	25.23	11 12 300 1702	25.30	11 30 000 9958	31.76
11 00 600 9503	25.44	11 05 000 6208	25.24	11 12 300 5201	25.45	11 30 000 9959	31.76
11 00 600 9601	25.43	11 05 000 6221	25.23	11 12 300 5202	25.45	11 30 000 9961	31.76
11 00 600 9603	25.43	11 05 000 6221	25.24	11 12 300 5401	25.30	11 30 000 9962	31.76
		11 05 000 6222	25.23	11 12 300 5451	25.32		
11 05 000 6101	25.14	11 05 000 6222	25.24			11 30 016 0520	31.74
11 05 000 6101	25.23	11 05 000 6223	25.23	11 12 600 0100	25.38		
11 05 000 6101	25.24	11 05 000 6223	25.24	11 12 600 0110	25.39	11 30 024 0520	31.75
11 05 000 6102	25.14	11 05 000 6224	25.23	11 12 600 0301	25.36		
11 05 000 6102	25.23	11 05 000 6224	25.24	11 12 600 0302	25.36	11 99 000 0001	90.34
11 05 000 6102	25.24	11 05 000 6225	25.23	11 12 600 1201	25.36	11 99 000 0002	90.34
11 05 000 6103	25.14	11 05 000 6225	25.24	11 12 600 1202	25.36		
11 05 000 6103	25.23	11 05 000 6226	25.23	11 12 600 1203	25.36	11 99 300 0001	90.28

List of part numbers



part numbers	page	part numbers	page	part numbers	page	part numbers	page
11 99 600 0001	90.28	19 12 708 0511	13.46	19 20 032 0226	31.25	19 30 010 1420	31.33
19 00 000 5013	14.60	19 14 001 0401	06.106	19 20 032 0231	31.24	19 30 010 1421	31.33
19 00 000 5014	14.60	19 14 001 0402	06.106	19 20 032 0232	31.24	19 30 010 1430	31.37
19 00 000 5015	14.60	19 14 001 0501	06.106	19 20 032 0272	31.24	19 30 010 1440	31.40
19 00 000 5019	14.60			19 20 032 0426	31.24	19 30 010 1441	31.40
19 00 000 5022	14.60	19 14 002 0400	06.110	19 20 032 0427	31.24	19 30 010 1520	31.33
19 00 000 5060	80.18	19 14 002 0401	06.110	19 20 032 0437	31.23	19 30 010 1521	31.33
19 00 000 5066	80.18	19 14 002 0402	06.110	19 20 032 0527	31.23	19 30 010 1530	31.37
19 00 000 5067	80.18	19 14 002 0402	06.110	19 20 032 0537	31.23	19 30 010 1540	31.40
19 00 000 5068	80.18	19 14 002 0501	06.110	19 20 032 1521	31.23	19 30 010 1541	31.40
19 00 000 5069	80.18			19 20 032 1531	31.23	19 30 010 1730	31.35
19 00 000 5070	80.18	19 20 000 9962	80.19			19 30 010 1750	31.43
19 00 000 5071	80.18			19 30 006 0291	31.29	19 30 010 2295	31.43
19 00 000 5072	80.18	19 20 003 0220	19.33	19 30 006 0292	31.29	19 30 010 7296	31.43
19 00 000 5073	80.18	19 20 003 0220	31.13	19 30 006 0296	31.29		
19 00 000 5080	80.16	19 20 003 0227	19.33	19 30 006 0297	31.29	19 30 016 0232	31.47
19 00 000 5081	80.16	19 20 003 0227	31.13	19 30 006 0446	31.27	19 30 016 0252	31.54
19 00 000 5082	80.16	19 20 003 0410	31.11	19 30 006 0447	31.27	19 30 016 0267	31.51
19 00 000 5084	80.16	19 20 003 0413	19.32	19 30 006 0546	31.27	19 30 016 0271	31.47
19 00 000 5086	80.16	19 20 003 0418	31.11	19 30 006 0547	31.27	19 30 016 0272	31.47
19 00 000 5086	80.16	19 20 003 0420	31.11	19 30 006 0586	31.32	19 30 016 0273	31.47
19 00 000 5090	80.16	19 20 003 0423	19.31	19 30 006 0587	31.32	19 30 016 0282	31.56
19 00 000 5091	80.16	19 20 003 0426	19.31	19 30 006 0716	31.31	19 30 016 0291	31.54
19 00 000 5092	80.16	19 20 003 0427	31.11	19 30 006 0756	31.30	19 30 016 0292	31.54
19 00 000 5094	80.16	19 20 003 0620	31.11	19 30 006 0757	31.30	19 30 016 0297	31.54
19 00 000 5095	80.16	19 20 003 0623	19.31	19 30 006 1250	31.29	19 30 016 0427	31.45
19 00 000 5096	80.16	19 20 003 0626	19.31	19 30 006 1255	31.29	19 30 016 0428	31.45
19 00 000 5097	80.16	19 20 003 0627	31.11	19 30 006 1290	31.29	19 30 016 0437	31.50
19 00 000 5098	80.16	19 20 003 0720	19.33	19 30 006 1295	31.29	19 30 016 0438	31.50
19 00 000 5099	80.16	19 20 003 0720	31.13	19 30 006 1440	31.27	19 30 016 0447	31.52
19 00 000 5172	80.18	19 20 003 0727	19.33	19 30 006 1540	31.27	19 30 016 0448	31.52
19 00 000 5173	80.18	19 20 003 0727	31.13	19 30 006 1541	31.27	19 30 016 0466	31.45
19 00 000 5180	80.15	19 20 003 1120	31.9	19 30 006 1750	31.30	19 30 016 0487	31.56
19 00 000 5182	80.15	19 20 003 1150	19.29	19 30 006 2255	31.30	19 30 016 0523	31.46
19 00 000 5184	80.15	19 20 003 1150	31.9	19 30 006 2295	31.30	19 30 016 0527	31.45
19 00 000 5190	80.15	19 20 003 1250	19.28	19 30 006 7296	31.30	19 30 016 0528	31.45
19 00 000 5192	80.15	19 20 003 1250	31.7			19 30 016 0529	31.46
19 00 000 5194	80.15	19 20 003 1252	19.28	19 30 010 0231	31.35	19 30 016 0537	31.50
19 00 000 5196	80.15	19 20 003 1252	31.8	19 30 010 0266	31.39	19 30 016 0538	31.50
19 00 000 5197	80.15	19 20 003 1421	31.5	19 30 010 0271	31.35	19 30 016 0547	31.52
19 00 000 5198	80.15	19 20 003 1422	31.5	19 30 010 0272	31.35	19 30 016 0548	31.52
		19 20 003 1423	19.27	19 30 010 0291	31.42	19 30 016 0586	31.56
19 11 001 3032	14.67	19 20 003 1425	19.27	19 30 010 0292	31.42	19 30 016 0587	31.56
19 11 001 3132	14.67	19 20 003 1440	31.5	19 30 010 0296	31.42	19 30 016 0666	31.45
		19 20 003 1443	19.27	19 30 010 0297	31.42	19 30 016 0736	31.48
19 12 000 5057	13.51	19 20 003 1640	31.5	19 30 010 0427	31.33	19 30 016 0737	31.48
19 12 000 5058	13.51	19 20 003 1643	19.27	19 30 010 0428	31.33	19 30 016 0757	31.55
19 12 000 5156	13.50	19 20 003 1750	19.29	19 30 010 0436	31.37	19 30 016 1226	31.51
19 12 000 5157	13.50	19 20 003 1750	31.8	19 30 010 0447	31.40	19 30 016 1231	31.47
19 12 000 5158	13.50			19 30 010 0465	31.33	19 30 016 1251	31.54
		19 20 010 0251	31.18	19 30 010 0527	31.33	19 30 016 1256	31.54
19 12 008 0411	13.44	19 20 010 0290	31.18	19 30 010 0537	31.37	19 30 016 1266	31.51
19 12 008 0412	13.48	19 20 010 0295	31.18	19 30 010 0547	31.40	19 30 016 1271	31.47
19 12 008 0425	13.40	19 20 010 0446	31.17	19 30 010 0586	31.44	19 30 016 1291	31.54
19 12 008 0426	13.44	19 20 010 0546	31.17	19 30 010 0736	31.35	19 30 016 1296	31.54
19 12 008 0428	13.48	19 20 010 1440	31.17	19 30 010 0737	31.35	19 30 016 1421	31.45
19 12 008 0429	13.40	19 20 010 1540	31.17	19 30 010 0756	31.43	19 30 016 1422	31.45
19 12 008 0501	13.45			19 30 010 0757	31.43	19 30 016 1431	31.50
19 12 008 0502	13.49	19 20 016 0251	31.21	19 30 010 1225	31.39	19 30 016 1432	31.50
19 12 008 0511	13.45	19 20 016 0290	31.21	19 30 010 1230	31.35	19 30 016 1441	31.52
19 12 008 0512	13.49	19 20 016 0291	31.21	19 30 010 1231	31.35	19 30 016 1442	31.52
19 12 008 0526	13.45	19 20 016 0295	31.21	19 30 010 1250	31.42	19 30 016 1521	31.45
19 12 008 0528	13.48	19 20 016 0446	31.20	19 30 010 1255	31.42	19 30 016 1522	31.45
19 12 008 0729	13.42	19 20 016 0546	31.20	19 30 010 1265	31.39	19 30 016 1531	31.50
		19 20 016 1440	31.20	19 30 010 1270	31.35	19 30 016 1541	31.52
19 12 708 0411	13.44	19 20 016 1540	31.20	19 30 010 1290	31.42	19 30 016 1542	31.52
19 12 708 0501	13.45			19 30 010 1295	31.42	19 30 016 1731	31.48

List of part numbers



part numbers	page	part numbers	page	part numbers	page	part numbers	page
19 30 016 1732	31.48	19 30 032 0529	31.69	19 34 010 0271	04.22	19 37 024 0587	31.95
19 30 016 1751	31.55	19 30 032 0738	31.70	19 34 010 0422	04.22	19 37 024 0733	31.94
19 30 016 1752	31.55			19 34 010 0521	04.22	19 37 024 1421	31.93
19 30 016 2296	31.55	19 30 048 0292	31.72	19 34 010 0732	04.22	19 37 024 1521	31.93
19 30 016 7297	31.55	19 30 048 0293	31.72				
		19 30 048 0298	31.72	19 36 000 5134	14.25	19 37 048 0401	14.41
19 30 024 0232	31.60	19 30 048 0448	31.71	19 36 000 5134	14.30	19 37 048 0401	31.96
19 30 024 0267	31.63	19 30 048 0449	31.71	19 36 000 5134	14.26	19 37 048 0448	31.96
19 30 024 0272	31.60	19 30 048 0450	31.71	19 36 000 5134	14.31	19 37 048 0449	31.96
19 30 024 0273	31.60	19 30 048 0548	31.71	19 36 000 5134	14.36	19 37 048 0548	31.96
19 30 024 0282	31.68	19 30 048 0549	31.71	19 36 000 5135	14.25		
19 30 024 0292	31.66			19 36 000 5135	14.30	19 40 003 0400	19.48
19 30 024 0297	31.66	19 30 210 0291	16.44	19 36 000 5135	14.33	19 40 003 0400	31.123
19 30 024 0427	31.57	19 30 210 0292	16.44	19 36 000 5135	14.50	19 40 003 0410	19.48
19 30 024 0428	31.57	19 30 210 0447	16.43	19 36 000 5135	14.28	19 40 003 0410	31.123
19 30 024 0429	31.58	19 30 210 0547	16.43	19 36 000 5135	14.51	19 40 003 0411	19.48
19 30 024 0437	31.62	19 30 210 0756	16.45			19 40 003 0411	31.123
19 30 024 0438	31.62	19 30 210 1250	16.44	19 37 003 1150	31.83	19 40 003 0900	31.126
19 30 024 0447	31.64	19 30 210 1290	16.44	19 37 003 1250	19.37	19 40 003 0950	19.50
19 30 024 0448	31.64	19 30 210 1440	16.43	19 37 003 1250	31.82	19 40 003 0950	31.125
19 30 024 0467	31.57	19 30 210 1441	16.43	19 37 003 1440	31.81	19 40 003 0951	19.50
19 30 024 0468	31.57	19 30 210 1540	16.43	19 37 003 1443	19.36	19 40 003 0951	31.125
19 30 024 0487	31.68	19 30 210 1541	16.43	19 37 003 1640	31.81	19 40 003 0953	19.50
19 30 024 0523	31.58	19 30 210 1750	16.45	19 37 003 1643	19.36	19 40 003 0953	31.125
19 30 024 0527	31.57			19 37 003 1750	19.37		
19 30 024 0528	31.57	19 30 216 0252	16.47	19 37 003 1750	31.83	19 40 006 0401	31.128
19 30 024 0529	31.58	19 30 216 0291	16.47			19 40 006 0410	31.128
19 30 024 0537	31.62	19 30 216 0292	16.47	19 37 006 0296	31.86	19 40 006 0411	14.25
19 30 024 0538	31.62	19 30 216 0447	16.46	19 37 006 0445	31.85	19 40 006 0411	31.128
19 30 024 0547	31.64	19 30 216 0448	16.46	19 37 006 0446	31.85	19 40 006 0412	14.25
19 30 024 0548	31.64	19 30 216 0547	16.46	19 37 006 0545	31.85	19 40 006 0412	31.128
19 30 024 0586	31.68	19 30 216 0548	16.46	19 37 006 0546	31.85	19 40 006 0413	31.128
19 30 024 0587	31.68	19 30 216 0757	16.47	19 37 006 1290	31.86	19 40 006 0418	14.47
19 30 024 0588	31.68	19 30 216 1251	16.47	19 37 006 1440	31.85	19 40 006 0501	31.128
19 30 024 0666	31.57	19 30 216 1291	16.47	19 37 006 1540	31.85	19 40 006 0510	31.128
19 30 024 0737	31.60	19 30 216 1441	16.46			19 40 006 0511	31.128
19 30 024 0738	31.60	19 30 216 1442	16.46	19 37 010 0272	31.89	19 40 006 0512	31.128
19 30 024 0757	31.67	19 30 216 1541	16.46	19 37 010 0296	31.89	19 40 006 0513	31.128
19 30 024 1226	31.63	19 30 216 1542	16.46	19 37 010 0426	31.88	19 40 006 0911	31.130
19 30 024 1231	31.60	19 30 216 1751	16.47	19 37 010 0427	31.88	19 40 006 1113	31.131
19 30 024 1251	31.66	19 30 216 1752	16.47	19 37 010 0465	31.88	19 40 006 1118	31.131
19 30 024 1256	31.66			19 37 010 0526	31.88	19 40 006 1260	31.130
19 30 024 1266	31.63	19 30 224 0292	16.49	19 37 010 0527	31.88	19 40 006 1261	31.130
19 30 024 1271	31.60	19 30 224 0447	16.48	19 37 010 0528	31.88	19 40 006 1262	31.130
19 30 024 1291	31.66	19 30 224 0448	16.48	19 37 010 1270	31.89		
19 30 024 1296	31.66	19 30 224 0547	16.48	19 37 010 1420	31.88	19 40 010 0401	31.132
19 30 024 1422	31.57	19 30 224 0548	16.48	19 37 010 1520	31.88	19 40 010 0411	31.132
19 30 024 1432	31.62	19 30 224 0757	16.49			19 40 010 0412	31.132
19 30 024 1442	31.64	19 30 224 1251	16.49	19 37 016 0272	31.91	19 40 010 0413	31.132
19 30 024 1521	31.57	19 30 224 1291	16.49	19 37 016 0273	31.91	19 40 010 0430	31.132
19 30 024 1522	31.57	19 30 224 1442	16.48	19 37 016 0282	31.92	19 40 010 0501	31.132
19 30 024 1531	31.62	19 30 224 1541	16.48	19 37 016 0427	31.90	19 40 010 0511	31.132
19 30 024 1541	31.64	19 30 224 1542	16.48	19 37 016 0487	31.92	19 40 010 0512	31.132
19 30 024 1542	31.64	19 30 224 1752	16.49	19 37 016 0527	31.90	19 40 010 0513	31.132
19 30 024 1732	31.60			19 37 016 0528	31.90	19 40 010 1113	31.134
19 30 024 1752	31.67	19 34 003 0270	04.20	19 37 016 0587	31.92	19 40 010 1118	31.134
19 30 024 2296	31.66	19 34 003 0420	04.20	19 37 016 1231	31.91	19 40 010 1260	31.134
19 30 024 7297	31.66	19 34 003 0421	04.20	19 37 016 1421	31.90	19 40 010 1262	31.134
		19 34 003 0520	04.20	19 37 016 1521	31.90	19 40 010 1263	31.134
		19 34 003 0730	04.20			19 40 010 1271	31.134
		19 34 003 0731	04.20	19 37 024 0272	31.94	19 40 010 1272	31.134
				19 37 024 0282	31.95		
19 30 032 0232	31.70	19 34 006 0271	04.21	19 37 024 0427	31.93	19 40 016 0402	31.136
19 30 032 0272	31.70	19 34 006 0421	04.21	19 37 024 0428	31.93	19 40 016 0411	31.136
19 30 032 0273	31.70	19 34 006 0521	04.21	19 37 024 0487	31.95	19 40 016 0412	31.136
19 30 032 0427	31.69	19 34 006 0731	04.21	19 37 024 0527	31.93	19 40 016 0413	31.136
19 30 032 0428	31.69	19 34 006 0732	04.21	19 37 024 0528	31.93	19 40 016 0414	31.136
19 30 032 0429	31.69						
19 30 032 0527	31.69						
19 30 032 0528	31.69						

List of part numbers



part numbers	page	part numbers	page	part numbers	page	part numbers	page
19 40 016 0431	14.26	19 40 024 1242	14.18	19 41 010 0422	29.28	19 41 116 0233	29.19
19 40 016 0431	31.136	19 40 024 1263	31.144	19 41 010 0522	29.15	19 41 116 0273	29.19
19 40 016 0478	14.19	19 40 024 1271	14.13	19 41 010 0522	29.28	19 41 116 0423	29.18
19 40 016 0502	31.136	19 40 024 1273	31.144	19 41 010 0722	29.16	19 41 116 0423	29.31
19 40 016 0511	31.137	19 40 024 1274	31.144	19 41 010 2601	29.7	19 41 116 0523	29.18
19 40 016 0512	31.137	19 40 024 9901	14.55	19 41 010 2701	29.7	19 41 116 0523	29.31
19 40 016 0513	31.137	19 40 024 9902	14.55	19 41 010 5404	29.17	19 41 116 0723	29.19
19 40 016 0514	31.137	19 40 024 9903	14.55	19 41 010 5404	29.30		
19 40 016 0912	31.138			19 41 010 5405	29.17	19 41 124 0233	29.22
19 40 016 0922	31.138	19 40 048 9801	14.63	19 41 010 5405	29.30	19 41 124 0273	29.22
19 40 016 0978	14.20	19 40 048 9812	14.64	19 41 010 5406	29.15	19 41 124 0423	29.21
19 40 016 1114	31.139	19 40 048 9820	14.64	19 41 010 5407	29.15	19 41 124 0423	29.34
19 40 016 1119	31.139	19 40 048 9822	14.64			19 41 124 0523	29.21
19 40 016 1261	31.138	19 40 048 9860	14.64	19 41 014 2601	29.8	19 41 124 0523	29.34
19 40 016 1262	31.138	19 40 048 9901	14.63	19 41 014 2701	29.8	19 41 124 0723	29.22
19 40 016 1263	31.138						
19 40 016 1273	31.138	19 40 703 0400	19.45	19 41 016 0233	29.19	19 41 206 0232	29.26
		19 40 703 0400	31.119	19 41 016 0273	29.19	19 41 206 0272	29.26
19 40 024 0402	31.140	19 40 703 0410	19.45	19 41 016 0301	29.19	19 41 206 0301	29.26
19 40 024 0410	31.140	19 40 703 0410	31.119	19 41 016 0423	29.18	19 41 206 0722	29.26
19 40 024 0412	31.141	19 40 703 0411	19.45	19 41 016 0423	29.31	19 41 206 5406	29.25
19 40 024 0413	31.141	19 40 703 0411	31.119	19 41 016 0523	29.18	19 41 206 5407	29.25
19 40 024 0414	31.141	19 40 703 0900	31.122	19 41 016 0523	29.31		
19 40 024 0419	31.140	19 40 703 0950	19.46	19 41 016 0723	29.19	19 41 210 0232	29.29
19 40 024 0420	14.12	19 40 703 0950	31.120	19 41 016 5404	29.19	19 41 210 0272	29.29
19 40 024 0420	31.140	19 40 703 0951	19.47	19 41 016 5404	29.32	19 41 210 0301	29.29
19 40 024 0431	31.141	19 40 703 0951	31.121	19 41 016 5405	29.20	19 41 210 0722	29.29
19 40 024 0432	14.28	19 40 703 0953	19.47	19 41 016 5405	29.33	19 41 210 5406	29.28
19 40 024 0432	31.141	19 40 703 0953	31.121	19 41 016 5406	29.18	19 41 210 5407	29.28
19 40 024 0433	31.141			19 41 016 5407	29.18		
19 40 024 0438	14.48	19 41 000 5131	29.38			19 41 216 0233	29.32
19 40 024 0461	14.30	19 41 000 5132	29.38	19 41 020 2601	29.9	19 41 216 0273	29.32
19 40 024 0461	14.12	19 41 000 5132	80.19	19 41 020 2701	29.9	19 41 216 0301	29.32
19 40 024 0461	31.141	19 41 000 5141	29.38			19 41 216 0723	29.32
19 40 024 0467	14.30	19 41 000 5142	29.38	19 41 024 0233	29.22	19 41 216 5406	29.31
19 40 024 0467	31.140	19 41 000 5201	29.38	19 41 024 0273	29.22	19 41 216 5407	29.31
19 40 024 0468	14.33	19 41 000 9801	29.39	19 41 024 0301	29.22		
19 40 024 0468	14.50	19 41 000 9802	29.39	19 41 024 0423	29.21	19 41 224 0233	29.35
19 40 024 0471	14.12	19 41 000 9803	29.39	19 41 024 0423	29.34	19 41 224 0273	29.35
19 40 024 0471	31.141	19 41 000 9804	29.39	19 41 024 0523	29.21	19 41 224 0301	29.35
19 40 024 0473	14.17	19 41 000 9901	29.39	19 41 024 0523	29.34	19 41 224 0723	29.35
19 40 024 0473	31.141	19 41 000 9902	29.39	19 41 024 0723	29.22	19 41 224 5406	29.34
19 40 024 0474	14.17	19 41 000 9903	29.39	19 41 024 5404	29.22	19 41 224 5407	29.34
19 40 024 0474	31.141	19 41 000 9904	29.39	19 41 024 5404	29.35		
19 40 024 0477	31.140			19 41 024 5405	29.23	19 41 306 0232	29.26
19 40 024 0478	14.36	19 41 001 2600	29.37	19 41 024 5405	29.36	19 41 306 0272	29.26
19 40 024 0503	31.141	19 41 001 2700	29.37	19 41 024 5406	29.21	19 41 306 0722	29.26
19 40 024 0512	31.141			19 41 024 5407	29.21		
19 40 024 0513	31.141	19 41 006 0232	29.13			19 41 310 0232	29.29
19 40 024 0514	31.141	19 41 006 0272	29.13	19 41 028 2601	29.10	19 41 310 0272	29.29
19 40 024 0537	31.141	19 41 006 0301	29.13	19 41 028 2701	29.10	19 41 310 0722	29.29
19 40 024 0631	14.12	19 41 006 0422	29.12				
19 40 024 0914	14.13	19 41 006 0422	29.25	19 41 106 0232	29.13	19 41 316 0233	29.32
19 40 024 0914	31.143	19 41 006 0522	29.12	19 41 106 0272	29.13	19 41 316 0273	29.32
19 40 024 0931	14.13	19 41 006 0522	29.25	19 41 106 0422	29.12	19 41 316 0723	29.32
19 40 024 0931	14.31	19 41 006 0722	29.13	19 41 106 0422	29.25		
19 40 024 0931	31.143	19 41 006 5404	29.14	19 41 106 0522	29.12	19 41 324 0233	29.35
19 40 024 0941	31.143	19 41 006 5404	29.27	19 41 106 0522	29.25	19 41 324 0273	29.35
19 40 024 0968	14.34	19 41 006 5405	29.14	19 41 106 0722	29.13	19 41 324 0723	29.35
19 40 024 0968	14.51	19 41 006 5405	29.27				
19 40 024 0971	14.13	19 41 006 5406	29.12	19 41 110 0232	29.16	19 44 000 9902	31.151
19 40 024 0971	31.143	19 41 006 5407	29.12	19 41 110 0272	29.16		
19 40 024 0978	14.38			19 41 110 0422	29.15	19 44 003 0301	19.42
19 40 024 1114	31.144	19 41 010 0232	29.16	19 41 110 0422	29.28	19 44 003 0301	31.148
19 40 024 1119	31.145	19 41 010 0272	29.16	19 41 110 0522	29.15	19 44 003 0801	19.43
19 40 024 1231	14.13	19 41 010 0301	29.16	19 41 110 0522	29.28	19 44 003 0801	31.148
19 40 024 1231	14.31	19 41 010 0422	29.15	19 41 110 0722	29.16	19 44 003 1150	19.43

List of part numbers

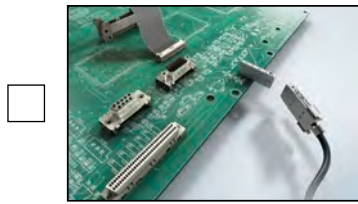


part numbers	page	part numbers	page	part numbers	page	part numbers	page
19 44 003 1150	31.149	19 62 806 0446	17.10	20 10 001 3211	13.32	20 88 641 1030	15.5
19 44 003 1250	19.43	19 62 806 0446	31.109	20 10 001 3212	02.14	20 88 641 1050	15.3
19 44 003 1250	31.148	19 62 806 0447	17.10	20 10 001 3213	02.14	20 88 641 1050	15.5
19 44 003 1440	31.147	19 62 806 0447	31.109	20 10 001 3221	02.23	20 88 641 1100	15.3
19 44 003 1443	19.42	19 62 806 0546	17.10	20 10 001 3221	05.12	20 88 641 1100	15.5
19 44 003 1640	31.147	19 62 806 0546	31.109	20 10 001 3221	05.21	20 88 641 1150	15.3
19 44 003 1643	19.42	19 62 806 0547	17.10	20 10 001 3221	05.24	20 88 641 1150	15.5
19 44 003 5421	31.147	19 62 806 0547	31.109	20 10 001 3221	06.52	20 88 641 1300	15.3
19 44 003 5422	19.42	19 62 806 1290	31.110	20 10 001 3221	06.50	20 88 641 1300	15.5
19 44 003 5422	31.147	19 62 806 1440	17.10	20 10 001 3221	13.24		
19 44 003 5425	19.43	19 62 806 1440	31.109	20 10 001 3221	13.34	20 88 821 0015	15.15
19 44 003 5425	31.148	19 62 806 1540	17.10	20 10 001 3221	13.32	20 88 821 0030	15.15
19 44 003 5426	31.149	19 62 806 1540	31.109	20 10 001 3222	02.14	20 88 821 0050	15.15
				20 10 001 3311	03.33	20 88 821 0100	15.15
19 44 310 0303	31.151	19 62 810 0272	31.112	20 10 001 3311	13.21	20 88 821 0150	15.15
19 44 310 0305	31.150	19 62 810 0426	17.11	20 10 001 3311	13.29	20 88 821 0300	15.15
19 44 310 0447	31.150	19 62 810 0426	31.111	20 10 001 3321	03.33		
19 44 310 0547	31.150	19 62 810 0427	17.11	20 10 001 3321	13.21	20 88 841 0015	15.13
19 44 310 0757	31.151	19 62 810 0427	31.111	20 10 001 3321	13.29	20 88 841 0030	15.13
19 44 310 5421	31.151	19 62 810 0446	31.113	20 10 001 4211	06.86	20 88 841 0050	15.13
19 44 310 5422	31.150	19 62 810 0447	31.113	20 10 001 4211	06.88	20 88 841 0100	15.13
		19 62 810 0526	17.11	20 10 001 4221	06.86	20 88 841 0150	15.13
19 62 000 5056	13.51	19 62 810 0526	31.111	20 10 001 4221	06.88	20 88 841 0300	15.13
19 62 000 5057	13.51	19 62 810 0527	17.11	20 10 001 5211	06.93		
19 62 000 5058	13.51	19 62 810 0527	31.111	20 10 001 5211	06.93	20 99 000 1031	90.16
19 62 000 5080	80.17	19 62 810 0547	31.113	20 10 001 5211	19.25	20 99 000 1033	90.16
19 62 000 5081	80.17	19 62 810 0757	31.112	20 10 001 5211	19.25	20 99 000 1035	90.16
19 62 000 5082	80.17	19 62 810 1271	31.112	20 10 001 5217	06.93	20 99 000 1041	90.37
19 62 000 5084	80.17	19 62 810 1420	17.11	20 10 001 5217	06.93	20 99 000 1045	90.37
19 62 000 5090	80.17	19 62 810 1420	31.111	20 10 001 5217	19.25	20 99 000 1046	90.37
19 62 000 5092	80.17	19 62 810 1421	17.11	20 10 001 5217	19.25	20 99 000 1092	90.33
19 62 000 5094	80.17	19 62 810 1421	31.111			20 99 000 1093	90.33
19 62 000 5096	80.17	19 62 810 1520	17.11	20 10 125 4212	06.86	20 99 000 1097	90.33
19 62 000 5097	80.17	19 62 810 1520	31.111	20 10 125 4212	06.88		
19 62 000 5098	80.17			20 10 125 4222	06.86	39 50 000 0100	12.6
		19 62 816 0273	31.115	20 10 125 4222	06.88	39 50 000 0110	12.7
19 62 003 1120	31.100	19 62 816 0427	17.12	20 10 125 5211	06.93	39 50 000 0120	12.7
19 62 003 1150	31.100	19 62 816 0427	31.114	20 10 125 5211	06.93	39 50 000 0200	12.6
19 62 003 1250	19.40	19 62 816 0527	17.12	20 10 125 5211	19.25	39 50 000 0210	12.7
19 62 003 1250	31.99	19 62 816 0527	31.114	20 10 125 5211	19.25	39 50 000 0300	12.5
19 62 003 1440	31.98	19 62 816 1271	31.115	20 10 125 5220	19.25	39 50 000 0320	12.5
19 62 003 1443	19.39	19 62 816 1421	17.12	20 10 125 5220	19.25	39 50 000 0400	12.5
19 62 003 1640	31.98	19 62 816 1421	31.114	20 10 125 8211	06.95	39 50 000 0420	12.5
19 62 003 1643	19.39	19 62 816 1521	17.12	20 10 125 8211	06.95	39 50 000 0851	12.15
19 62 003 1750	19.40	19 62 816 1521	31.114	20 10 125 8212	06.95	39 50 000 0890	12.15
19 62 003 1750	31.100			20 10 125 8212	06.95	39 50 000 0900	12.15
		19 62 824 0273	31.117	20 10 125 8220	06.95		
19 62 006 0441	31.104	19 62 824 0427	17.13	20 10 125 8220	06.95	39 50 001 0001	12.3
19 62 006 0442	31.104	19 62 824 0427	31.116	20 10 125 8221	06.95	39 50 001 0002	12.4
19 62 006 0541	31.104	19 62 824 0527	17.13	20 10 125 8221	06.95	39 50 001 0004	12.3
		19 62 824 0527	31.116			39 50 001 0005	12.3
19 62 010 0442	31.105	19 62 824 0528	17.13	20 10 230 4211	06.86	39 50 001 0006	12.3
19 62 010 0542	31.105	19 62 824 0528	31.116	20 10 230 4211	06.88	39 50 001 0007	12.4
19 62 010 0543	31.105	19 62 824 1271	31.117	20 10 230 4221	06.86	39 50 001 0009	12.4
		19 62 824 1422	17.13	20 10 230 4221	06.88	39 50 001 0010	12.4
19 62 015 0446	31.102	19 62 824 1422	31.116	20 10 230 5211	06.93	39 50 001 0012	12.4
19 62 015 0546	31.102	19 62 824 1521	17.13	20 10 230 5211	06.93	39 50 001 0017	12.4
		19 62 824 1521	31.116	20 10 230 5211	19.25	39 50 001 0321	12.4
19 62 025 0446	31.103			20 10 230 5211	19.25	39 50 001 0331	12.4
19 62 025 0546	31.103	20 10 001 3211	02.23				
		20 10 001 3211	05.12	20 80 001 9911	90.32	39 50 002 0093	12.11
19 62 040 0442	31.106	20 10 001 3211	05.21	20 80 001 9912	90.33	39 50 002 0117	12.11
19 62 040 0542	31.106	20 10 001 3211	05.24	20 80 001 9913	90.33	39 50 002 0120	12.11
		20 10 001 3211	06.52			39 50 002 0122	12.11
19 62 064 0443	31.107	20 10 001 3211	06.50	20 88 641 1015	15.3	39 50 002 0133	12.11
19 62 064 0543	31.107	20 10 001 3211	13.24	20 88 641 1015	15.5	39 50 002 0143	12.11
		20 10 001 3211	13.34	20 88 641 1030	15.3	39 50 002 0145	12.12

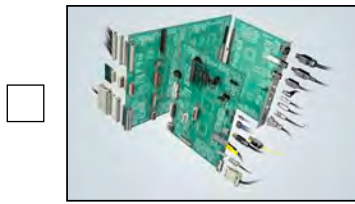
Part-number

part numbers	page	part numbers	page	part numbers	page	part numbers	page
39 50 002 0163	12.12	39 50 904 0010	12.14	61 03 000 0058	06.76	61 03 000 0127	06.76
39 50 003 0020	12.9	39 50 904 0020	12.14	61 03 000 0059	06.76	61 03 000 0141	06.76
39 50 003 0024	12.9	39 50 904 0030	12.14	61 03 000 0062	06.75	61 03 000 0142	06.76
39 50 003 0040	12.9	39 50 904 0031	12.14	61 03 000 0063	06.75	61 03 000 0143	06.76
39 50 003 0074	12.9	39 50 904 0032	12.14	61 03 000 0064	06.75	61 03 000 0165	06.75
39 50 003 0111	12.9	39 50 904 0050	12.14	61 03 000 0065	06.75	61 03 000 0166	06.75
39 50 003 0129	12.9			61 03 000 0066	06.75	61 03 000 0168	90.18
39 50 003 0170	12.10	61 03 000 0044	06.76	61 03 000 0067	06.75	61 03 000 0169	90.18
		61 03 000 0045	06.76	61 03 000 0068	06.75	61 03 000 0172	90.18
		61 03 000 0046	06.76	61 03 000 0069	06.75	61 03 000 0173	90.18
39 50 903 0010	12.13	61 03 000 0047	06.76	61 03 000 0070	06.75	61 03 000 0174	90.18
39 50 903 0011	12.13	61 03 000 0048	06.76	61 03 000 0071	06.75	61 03 000 0175	90.18
39 50 903 0020	12.13	61 03 000 0049	06.76	61 03 000 0072	06.75	61 03 000 0176	90.18
39 50 903 0021	12.13	61 03 000 0050	06.76	61 03 000 0098	90.18	61 03 000 0177	90.18
39 50 903 004	12.13	61 03 000 0051	06.76	61 03 000 0099	90.18	61 03 000 0178	90.18
39 50 903 0040	12.13	61 03 000 0052	06.76	61 03 000 0100	90.18	61 03 000 0179	90.18
39 50 903 0050	12.13	61 03 000 0053	06.76	61 03 000 0101	90.18	61 03 000 0180	90.18
39 50 903 0051	12.13	61 03 000 0054	06.76	61 03 000 0102	90.18		
39 50 903 0060	12.13	61 03 000 0055	06.76	61 03 000 0103	90.18	61 03 600 0020	90.19
39 50 903 0061	12.13	61 03 000 0056	06.76	61 03 000 0104	90.18		
		61 03 000 0057	06.76	61 03 000 0105	90.18		

Please send me further information:



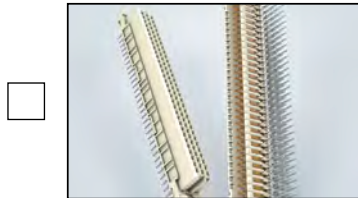
Interface Connectors



Device Connectivity



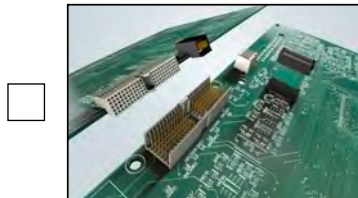
Industrial Connectors Han®



**Connectors
DIN 41612**



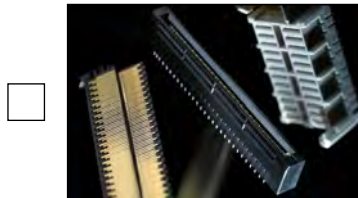
**Intelligent Network
Solutions**



**Coaxial and Metric
Connectors**



**Application
brochure**



TCA Connectors



**High Speed
Backplanes**

Sender:

Company: _____

Street: _____

Department: _____

Postcode/Town: _____

Name: _____

Country: _____

Prenome: _____

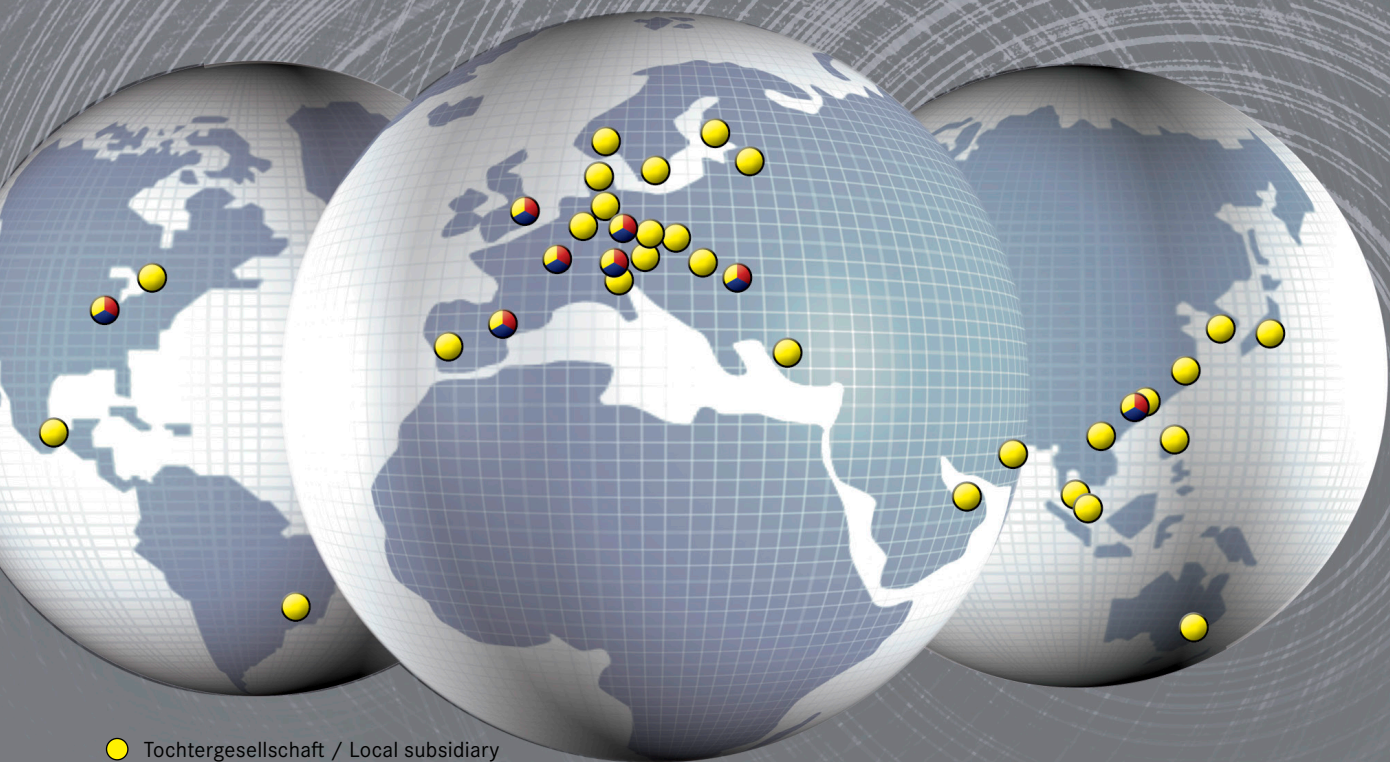
Phone: _____

Function: _____

Fax: _____

Please send it by post or fax to your local HARTING representatives (see page addresses) or visit us under www.HARTING.com.

E-Mail: _____



- Tochtergesellschaft / Local subsidiary
- Fertigungsstätte / Production Plant
- F & E / R & D

Sales Network – worldwide



Afghanistan

see United Arab Emirates

Albania

see Austria

Argentina

Condelectric S.A.
Hipólito Yrigoyen 2591
1640 – Martínez
Buenos Aires – Argentina
Phone +54 11 4836 1053
Fax +54 11 4836 1053
comercial@condelectric.com.ar

Armenia

see Russia

Australia

HARTING Pty Ltd
Suite 11 / 2 Enterprise Drive
Bundoora 3083, AUS-Victoria
Phone +61 3 9466 7088
Fax +61 3 9466 7099
au@HARTING.com
www.HARTING.com.au

Austria

HARTING Ges.m.b.H.
Deutschstraße 19, A-1230 Wien
Phone +431 6162121
Fax +431 6162121-21
at@HARTING.com
www.HARTING.at

Azerbaijan

see Turkey

Bahrain

see United Arab Emirates

Belarus

see Russia

Belgium

HARTING N.V./S.A.
Z.3 Doornveld 23, B-1731 Zellik
Phone +32 2 466 0190
Fax +32 2 466 7855
be@HARTING.com
www.HARTING.be

Bosnia and Herzegovina

see Austria

Brazil

HARTING Ltda.
Rua Major Paladino 128 –
Prédio 11
CEP 05307-000 – São Paulo –
SP – Brasil
Phone +55 11 5035 0073
Fax +55 11 5034 4743
br@HARTING.com
www.HARTING.com.br

Brunei

see Singapore

Bulgaria

see Austria

Canada

HARTING Canada Inc.
8455 Trans-Canada Hwy., Suite 202
St. Laurent, QC, H4S1Z1, Canada
Phone 855-659-6653
Fax 855-659-6654
info.ca@HARTING.com
www.HARTING.ca

China

HARTING (Zhuhai) Sales Ltd.
Shanghai Branch, Room 3501,
Grand Gateway I, No. 1 Hong Qiao Road
Xu Hui District, Shanghai 200030, China
Phone +86 21 6386 2200
Fax +86 21 6386 8636
cn@HARTING.com
www.HARTING.com.cn

Croatia

see Austria

Czech Republic

HARTING s.r.o.
Mlýnská 2, CZ-160 00 Praha 6
Phone +420 220 380 460
Fax +420 220 380 461
cz@HARTING.com
www.HARTING.cz

Denmark

HARTING ApS
Hjulmagervej 4a
DK – 7100 Vejle
Phone +45 70 25 00 32
Fax +45 75 80 64 99
dk@HARTING.com
www.HARTING.dk

Egypt

see United Arab Emirates

Estonia

see Finland

Finland

HARTING Oy
Teknobulevardi 3-5
FI-01530 Vantaa
Phone +358 207 291 510
Fax +358 207 291 511
fi@HARTING.com
www.HARTING.fi

France

HARTING France
181 avenue des Nations, Paris Nord 2
BP 66058 Tremblay en France
F-95972 Roissy Charles de Gaulle Cédex
Phone +33 1 4938 3400
Fax +33 1 4863 2306
fr@HARTING.com
www.HARTING.fr

Germany

HARTING Deutschland GmbH & Co. KG
P.O. Box 2451, D-32381 Minden
Simeons carré 1, D-32427 Minden
Phone +49 571 8896 0
Fax +49 571 8896 282
de@HARTING.com
www.HARTING.de

Georgia

see Russia

Great Britain

HARTING Ltd., Caswell Road
Brackmills Industrial Estate
GB-Northampton, NN4 7PW
Phone +44 1604 827 500
Fax +44 1604 706 777
gb@HARTING.com
www.HARTING.co.uk

Hong Kong

HARTING (HK) Limited
Regional Office Asia Pacific
3512 Metroplaza Tower 1
223 Hing Fong Road
Kwai Fong, N. T., Hong Kong
Phone +852 2423 7338
Fax +852 2480 4378
ap@HARTING.com
www.HARTING.com.hk

Hungary

HARTING Magyarország Kft.
Fehérvári út 89-95, H-1119 Budapest
Phone +36 1 205 34 64
Fax +36 1 205 34 65
hu@HARTING.com
www.HARTING.hu

Iceland

see Great Britain

India

HARTING India Pvt Ltd
7th Floor (West Wing), Central Square II
Unit No.B-19 Part, B 20&21
TVK Industrial Estate
Guindy, Chennai – 600032
Phone +91-44-43560415
+91-44-43456262
Fax +91-44-43560417
in@HARTING.com
www.HARTING.in

Indonesia

see Malaysia

Iran

see United Arab Emirates

Iraq

see United Arab Emirates

Israel

COMTEL
Israel Electronic Solutions Ltd.
Bet Hapamon, 20 Hataas st.
P.O.Box 66
Kefar-Saba 44425
Phone +972-9-7677240
Fax +972-9-7677243
sales@comtel.co.il
www.comtel.co.il

Italy

HARTING SpA
Via Dell' Industria 7
I-20090 Vimodrone (Milano)
Phone +39 02 250801
Fax +39 02 2650 597
it@HARTING.com
www.HARTING.it

Japan

HARTING K. K.
Yusen Shin-Yokohama 1 Chome Bldg., 2F
1-7-9, Shin-Yokohama, Kohoku
Yokohama 222-0033 Japan
Phone +81 45 476 3456
Fax +81 45 476 3466
jp@HARTING.com
www.HARTING.co.jp

Jemen

see United Arab Emirates

Jordan

see United Arab Emirates

Kazakhstan

see Russia

Kirghizia

see Russia

Korea (South)

HARTING Korea Limited
B-B108, Woolim Lions Valley 5th
302, Galmachi-ro, Jungwon-gu
Seongnam-si, Gyeonggi-do
462-739, Korea
Phone +82 31 750 0380
Fax +82 31 781 4616
kr@HARTING.com
www.HARTING.co.kr

Kosovo

see Austria

Kuwait

see United Arab Emirates

Latvia

see Finland

Lebanon

see United Arab Emirates

Lithuania

see Finland

Macedonia

see Austria

Malaysia (Office)

HARTING Singapore Pte Ltd
Malaysia Branch
11-02 Menara Amcorp
Jln. Persiaran Barat
46200 PJ, Sel. D. E., Malaysia
Phone +60 3 / 7955 6173
Fax +60 3 / 7955 5126
sg@HARTING.com

Montenegro

see Austria

Netherlands

HARTING B.V.
Larenweg 44
NL-5234 KA ,s-Hertogenbosch
Postbus 3526
NL-5203 DM ,s-Hertogenbosch
Phone +31 736 410 404
Fax +31 736 440 699
nl@HARTING.com
www.HARTINGbv.nl

New Zealand

see Australia

Norway

HARTING A/S
Østensjøveien 36, N-0667 Oslo
Phone +47 22 700 555
Fax +47 22 700 570
no@HARTING.com
www.HARTING.no

Oman

see United Arab Emirates

Pakistan

see United Arab Emirates

Philippines

see Malaysia



Poland

HARTING Polska Sp. z o.o.
ul. Duńska 9
PL- 54-427 Wrocław
Phone +48 71 352 81 71
Fax +48 71 350 42 13
pl@HARTING.com
www.HARTING.pl

Portugal

HARTING Iberia, S. A.
E\Viriato, 47 8º, Edificio Numancia 1
E-08014 Barcelona
Phone +351 219 673 177
Fax +351 219 678 457
es@HARTING.com
www.HARTING.es/pt

Qatar

see United Arab Emirates

Republic of Moldova

see Romania

Romania

HARTING Romania SCS
Europa Unita str. 21
550018-Sibiu, Romania
Phone +40 369-102 671
Fax +40 369-102 622
ro@HARTING.com
www.HARTING.com

Russia

HARTING ZAO
Maliy Sampsoniyevsky prospect 2A
194044 Saint Petersburg, Russia
Phone +7 812 327 6477
Fax +7 812 327 6478
ru@HARTING.com
www.HARTING.ru

Saudi Arabia

see United Arab Emirates

Serbia

see Austria

Singapore

HARTING Singapore Pte Ltd.
25 International Business Park
#04-108 German Centre
Singapore 609916
Phone +65 6225 5285
Fax +65 6225 9947
sg@HARTING.com
www.HARTING.sg

Slovakia

HARTING s.r.o.
Sales office Slovakia
J. Simora 5, SK – 940 52 Nové Zámky
Phone +421 356-493 993
Fax +421 356-402 114
sk@HARTING.com
www.HARTING.sk

Slovenia

see Austria

South Africa

HARTING South Africa (Pty) Ltd
Ground Floor, Twickenham Building
PO Box 67302
Johannesburg (Bryanston)
2021, South Africa
Phone +27 (0) 11 575 0017
Fax +27 (0) 11 576 6000
za@HARTING.com
www.HARTING.co.za

Spain

HARTING Iberia S.A.
E\Viriato, 47 8º, Edificio Numancia 1
E-08014 Barcelona
Phone +34 93 363 84 75
Fax +34 93 419 95 85
es@HARTING.com
www.HARTING.es

Sweden

HARTING AB
Gustavslundsvägen 141 B 4tr
S-167 51 Bromma
Phone +46 8 445 7171
Fax +46 8 445 7170
se@HARTING.com
www.HARTING.se

Switzerland

HARTING AG
Industriestrasse 26
CH-8604 Volketswil
Phone +41 44 908 20 60
Fax +41 44 908 20 69
ch@HARTING.com
www.HARTING.ch

Syria

see United Arab Emirates

Taiwan

HARTING Taiwan Ltd.
Room 1, 5/F
495 GuangFu South Road
RC-110 Taipei, Taiwan
Phone +886 2 2758 6177
Fax +886 2 2758 7177
tw@HARTING.com
www.HARTING.com.tw

Tajikistan

see Russia

Thailand

see Malaysia

Turkey

HARTING TURKEI Elektronik Ltd. Şti.
Barbaros Mah. Dereboyu Cad. Fes-
leğen Sok.
Uphill Towers, A-1b Kat:8 D:45
34746 Ataşehir, İstanbul
Phone +90 216 688 81 00
Fax +90 216 688 81 01
tr@HARTING.com
www.HARTING.com.tr

Turkmenistan

see Russia

Ukraine

see Poland

United Arab Emirates

HARTING Middle East FZ-LLC
Knowledge Village, Block 2A, Office F72
P.O. Box 454372, Dubai
United Arab Emirates
Phone +971 4 453 9737
Fax +971 4 439 0339
uae@HARTING.com
www.HARTING.ae

USA

HARTING Inc. of North America
1370 Bowes Road
USA-Elgin, Illinois 60123
Phone +1 (877) 741-1500 (toll free)
Fax +1 (866) 278-0307 (Inside Sales)
us@HARTING.com
www.HARTING-USA.com

Uzbekistan

see Russia

Vietnam

see Singapore

Distributors – worldwide



Digi-Key Corporation:
www.digikey.com

Farnell:
www.farnell.com

FUTURE Electronics:
www.futureelectronics.com

Mouser Electronics:
www.mouser.com

RS Components:
www.rs-components.com

Other countries and general contact



HARTING Electric GmbH & Co. KG
P.O. Box 1473, D-32328 Espelkamp
Phone +49 5772 47-97100
Fax +49 5772 47-495
electric@HARTING.com
www.HARTING.com



Pushing Performance

HARTING.com –
the gateway to your country website.

www.HARTING.ae
www.HARTING.at
www.HARTING.com.au
www.HARTING.be
www.HARTING.com.br
www.HARTING.ca
www.HARTING.ch
www.HARTING.com.cn
www.HARTING.cz
www.HARTING.de
www.HARTING.dk
www.HARTING.es
www.HARTING.fi
www.HARTING.fr
www.HARTING.co.uk
www.HARTING.com.hk
www.HARTING.hu
www.HARTING.co.in
www.HARTING.it
www.HARTING.co.jp
www.HARTING.co.kr
www.HARTINGbv.nl
www.HARTING.no
www.HARTING.pl
www.HARTING.pt
www.HARTING.ro
www.HARTING.ru
www.HARTING.se
www.HARTING.sg
www.HARTING.sk
www.HARTING.com.tr
www.HARTING.com.tw
www.HARTING-USA.com
www.HARTING.co.za